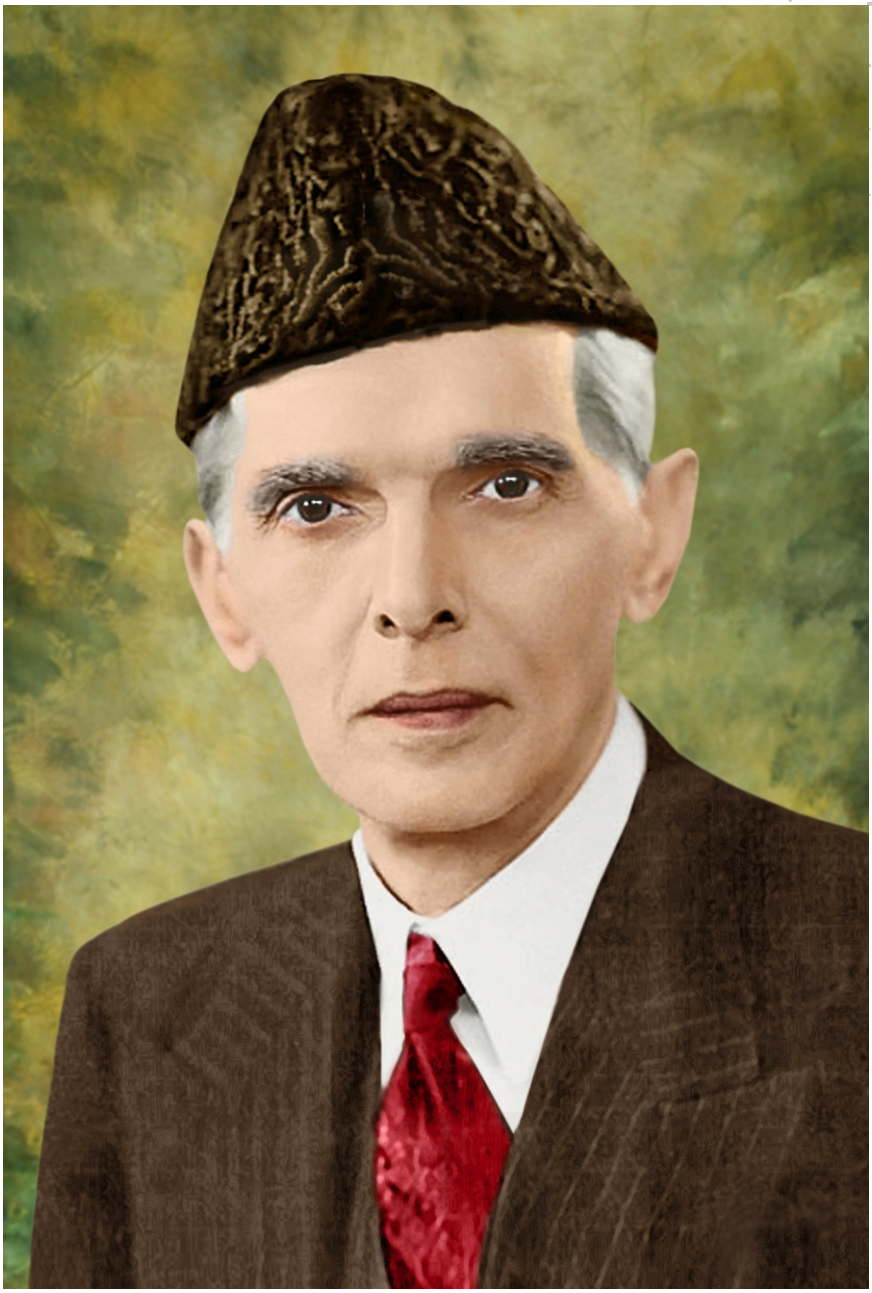


If you want to raise the prestige and greatness of Pakistan, you must not fall victim to any pressure but do your duty as servants of the people and the state, fearlessly and honestly.

Quaid-e-Azam Muhammad Ali Jinnah
Address to Civil Officers
Peshawar, April 1948

"Health is our priority"

Mr. Imran Khan
Prime Minister of Pakistan
September, 2018

Chief Minister
Government of Punjab

Sardar Usman Ahmed Khan Buzdar

The Government of Punjab, fully cognizant of the fact that good governance guided by health systems approach promotes effective delivery of health services, and that investment in healthcare leads to economic growth, together with the desire to lead the province in the 21st Century with approaches that are in tandem with the international best practices, has embarked upon the development of the Punjab Health Sector Strategy.

Health is coexistent with other sectors, such as economy, environment, education, transport, food security and other non-health sectors and a holistic approach is necessary to achieve the desired objectives for a better performing health sector. The strategy does implicate all these sectors in order to achieve the optimum.

The Health Sector Strategy (2019-28) of the Punjab Government, takes guidance from global research and local circumstances and commits to take forward the health sector of the province to the desired goals set by the new Government. The main strategies for taking forward this intent are (1) strengthening health systems for better governance; and (2) collaborating with health and non-health sectors, public and private sectors and with the citizens for a common vision and interest. Further, delivering quality healthcare services to all is the cornerstone of the Punjab Government; the Punjab Government, seeks to improve the health status of an increasing number of citizens, on an equal basis, through expanded access to effective essential healthcare, backed by adequate referral services and resources. The insights emerging from the Situation Analysis of the Health Sector Strategy has brought up key recommendation, which the Department of Health, I am sure would closely review and try to incorporate during implementation of the Strategic directions given in the Punjab Health Sector Strategy 2019-28.

Finally, I would again like to offer my gratitude to Dr. Yasmin Rashid Minister for Health, Government of Punjab, for her efforts in finalizing this strategic document.

Minister for Health,
Government of Punjab

Dr. Yasmin Raashid

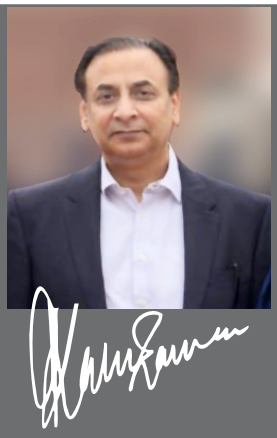
I take pride in initiating the process for the development of Punjab Health Sector Strategy 2019-2028 in tandem with the Sustainable Development Goals (SDGs). This strategy has been developed after a long consultative process involving all relevant technical experts working at the national and international level, academia, research organizations, development partners and all those who have a contribution in the achievement of comprehensive well-being and health. This is known to everyone that health is beyond the absence of disease and the role of socio-environmental lifestyle and behavioral determinants cannot be undermined.

Therefore, it is not only the responsibility of the Health Department to attain and maintain the maximum level of health until and unless other governmental departments, community groups, civil society organizations are also mobilized to play their role in this regard. Thus, improving health is not just the business of the Health Department, but everybody.

Previously a Health Sector Strategy (2012-2020) was developed by the PSPU (Health Department) in the context of post 18th Constitutional Amendment but it has been realized now that most of the important areas to be focused upon have been overlooked, without which one cannot achieve the maximum level of health. New areas which have been deliberated upon in this PHSS include, but not limited to, are 'Patient Safety & Quality of Care', 'Environmental Health & Hospital Waste Management' and 'Public Private Partnership' (PPP). The Strategy will provide health department a sense of direction, purpose and urgency by prioritizing policy related interventions consistent with availability of financial resources, to ensure the achievement of SGD's.

I personally thank all those who have contributed for the development of this strategy, especially PSPU, which worked day and night to complete this exhaustive task within a very short span of time. I hope and pray that this document will be a source of guidance and inspiration for all to progress further to make this province a 'Healthier Punjab' than ever before.

Secretary, Primary & Secondary Healthcare Department
Government of Punjab



Mr. Zahid Akhtar Zaman

Although the process for the development of strategy was exhaustive and time taking but it is a matter of great pleasure that finally we have been able to develop the PHSS (2019-2028) to provide us directions and support to progress further. The strategy has identified major thematic areas to be fixated and identified the short term to medium and long-term sustainable solutions, which will help us to address all bottlenecks for attaining health potential. Role of both health departments in terms of their coordination and linkage with each other for the prevention, cure and rehabilitation will be further enhanced and strengthened.

Role and guidance of worthy Minister for Health for the development of this valuable document is worth appreciating, as without her directions and guidance, this document would not have been developed. This dynamic document will provide us a roadmap for setting out priorities, by overcoming the budgetary constraints. In this regard, some extra measures in terms of advocacy/lobbying for allocation of additional resources or networking and partnership with civil society organizations and private sector may be sought.

I congratulate all who have participated in the development of this great document, especially Program Director, Policy and Strategic Planning Unit (PSPU) along with her team that deserves great appreciation for accomplishment of this task.

Secretary, Specialized Healthcare & Medical Education Department
Government of Punjab

Capt. (Retd.) Saqib Zafar

The Punjab Health Sector Strategy 2019-28 provides the framework for the future planning, management and service delivery by the Punjab Health Department, to address health outcomes over the next decade. These outcomes are derived from cross sectional discussions with thematic experts, diligent overviews by experts, extracting insights from global experiences, and in-house extensive appraisals.

The Punjab Health Sector Strategy (PHSS) reinforces the vision of the Government of Punjab, that Primary, Secondary Healthcare and Specialized Healthcare & Medical Education be equally emphasized as core objectives – together, leading Punjab towards better performance for attaining the desired goal of providing quality healthcare to the people of Punjab. This commitment is made in view of the current high demand for quality health services provision. Moreover, from the present disease burden trends especially with non-communicable diseases, up scaling of clinical services will need to be undertaken and has been given due importance in the PHSS. The referral linkages of primary, secondary and tertiary healthcare would provide the base for undertaking better performance through evidence and intelligent use of resources.

I take pride, together with the team, in the development of this roadmap and I am confident that this would take the health sector in the right direction, which is conducive to progress and is outcome oriented.

Acknowledgements

Dr. Shagufta Zareen
Program Director
Policy & Strategic Planning Unit

The Department of Health Punjab is indebted to the worthy Health Minister Punjab, Professor Dr. Yasmin Raashid for leading and guiding the development of Punjab Health Sector Strategy. Without her continued support, dedication and commitment, this insurmountable task would not have been achieved.

The support and patronage of the worthy Secretary P&S Healthcare and Secretary Specialized Healthcare Punjab remained above all, throughout the development of this document.

We personally thank all colleagues in the Health Department, Academia, Research Organizations, and Members of Health Strategy Core Committee, for their continuous support and cooperation.

We are highly indebted to Dr. Zulfiqar Bhutta, who not only travelled to Pakistan to share his valuable input, but also invited the Punjab Health Team to Agha Khan University for deliberations on the draft of the strategy. He also deputed his two team members, Mr. Shah Muhammad and Mr. Zahid Memon, to help us in brainstorming and refining ideas in developing this strategy.

This acknowledgement will be incomplete without the mention of Dr. Sameen Siddiqi. Being an international policy maker and Ex-WR of WHO; his deep insight into each chapter/section of this strategy helped us to improve the document. In spite of his busy schedule, he along with Dr. Wafa Aftab, read each line of this strategy and contributed to take it to perfection. The special contribution of Dr. Muhammad Mahmood Afzal in reviewing the draft of the PHSS needs special mention, I am highly grateful for his time and expert opinion.

Special gratitude needs to be paid to Dr. Zulfiqar Khan, Dr. Jamshaid Ahmed from World Health Organization and Dr. Tahir Manzoor, Dr. Shafique-ur-Rehman from UNICEF for provision of financial and technical support in developing the Health Sector Strategy for Punjab.

Finally, we are thankful to Dr. Nasir Idrees, Senior Health Systems, Policy, Governance & Reforms Specialist for authoring this document, and for his repeated reviews and incorporations making this impeccable to the possible extent.

We would also like to thank Dr. Ahmed Nadeem Zaka, Dr. Naveed Jafri, Mr. Muhammad Rashid, Mr. Ibrahim Mughal, Ms. Amina Ali and Mr. Fakhir Abbas Kazmi for reviewing this document.

We hope that this strategy will prove to be the much-needed guiding document for developing our future course of action, Insha'Allah. We truly believe that this will contribute to the improvement in our healthcare delivery system and lead to the desired optimum for improving the health status of the population of Punjab by ensuring universal and quality health coverage.

Executive Summary

The Government of Punjab, taking forward the intent of the newly elected political leadership to reform and restructure Punjab Health Sector towards better performance, has pursued the development of ten-year Punjab Health Sector Strategy 2019-28. The strategic roadmap being a basic requirement to tie financial resources to intents, has been developed with valor and rigor. This strategy is a sequel to and is in consonance with the achievements and gaps falling out from the previous Health Sector Strategy 2012-20, made as a result of Post 18th Amendment of Pakistan and bifurcation of health department Punjab.

The defined priorities of the new political leadership in the health sector include patient safety and quality of care, infection control, hospital waste management, environmental/one health, Health financing & public private partnership in the backdrop of three paradigms - biomedical, socio-environmental and lifestyle & behavioral contexts. These paradigms cannot be achieved unless the role of other governmental sectors, civil society organizations, private sector, and community groups is realized, with their maximal mobilization.

The Government of Punjab underwent a course of extensive consultations, deliberations from national high profiled experts and in-house consultative process to bring the required consensus and thoroughness in making this Health Sector Strategy fully owned and implementable under the able and unswerving leadership of the Minister Health Punjab, with Policy & Strategic Unit as the Secretariat. The outcomes and objectives that emerged through this consultative process are:

1) Maternal and Child Health (MNCH), Nutrition, & Family Planning (FP)

- Objective 1: To ensure timely free access to a quality MNCH services irrespective of ability to-pay, to all the people in Punjab.
- Objective 2: To institutionalize quality of care in MNCH services delivery system
- Objective 3: To ensure timely free access to a quality nutrition health services irrespective of ability to-pay, to all the people in Punjab
- Objective 4: To institutionalize quality of care in Nutrition services delivery system
- Objective 5: To ensure timely free access to quality FP services irrespective of ability to-pay, to all the people in Punjab
- Objective 6: To institutionalize quality of care in FP services delivery system

2) Preventive Health Services including Communicable and Non-Communicable Diseases (NCDs)

- Objective 1: To ensure availability and accessibility of preventive health service at all levels of Health Facilities and through community health workers
- Objective 2: To strengthen/up scale the screening, testing and treatment services for communicable and non-communicable diseases
- Objective 3: To have in depth study of the Family Health and DCP3 Concepts

3) Patient Safety and Quality of Care

- Objective 1: To have a safe health system that minimizes harm to patients, consumers, and reduces costs associated with preventable adverse events
- Objective 2: To have a health system that maximizes the potential for safe and high-quality care by supporting and encouraging patients and the community members to participate as an equal partner in healthcare
- Objective 3: To have a health system that supports safe clinical practice by having robust and comprehensive information system
- Objective 4: To provide safe and easy access to persons with disabilities at health facilities complying Accessibility Codes

4) Medicines and Biomedical Equipment

- Objective 1: To improve logistic and supply chain management system for regular, uninterrupted and adequate availability of essential medicines at all levels of healthcare
- Objective 2: To regularly review the Essential Medicine List (EML) for making it more responsive to changing health needs
- Objective 3: To ensure proper and enough storage of essential medicines at provincial and district level
- Objective 4: To improve quality of medicines by enforcement of Medicine Regulation in Punjab at all levels of manufacturing, storing, testing and sale
- Objective 5: To ensure registration of biomedical equipment and development of SOPs for their regulation
- Objective 6: To develop a facility wise standard list of equipment as per WHO guideline
- Objective 7: To ensure availability of updated functional equipment at all levels
- Objective 8: To regularize procurement activities
- Objective 9: To hire new and build capacity of existing biomedical engineers and technicians
- Objective 10: To standardize specification for all biomedical equipment as per the requirement of each type of health facility

5) Health Management Information System

- Objective 1: To enhance scope and contents of health data systems for policy and planning
- Objective 2: To plug data gaps by instituting additional approaches for autonomous tertiary hospitals and private sector
- Objective 3: To establish comprehensive system of Health Dimensions of Civil Registration and Vital Statistics (CRVS) at all levels of health facilities including public and private sector
- Objective 4: To develop a mechanism for dissemination of the performance of health sector

6) Health Governance and Accountability

- Objective 1: To strengthen both Health departments for their key roles in health policy making, programming, human resource management, monitoring and evaluation
- Objective 2: To reorganize/strengthen DGHS for ensuring implementation of health strategy initiatives including all preventive programs in the province
- Objective 3: To decentralize health management and service delivery giving optimal autonomy to decentralized districts and autonomous health facilities
- Objective 4: To establish a robust, comprehensive and responsive regulatory regime to provide optimal regulatory environment to healthcare delivery across Punjab
- Objective 5: To promote a culture of community participation and empowerment to make healthcare delivery system responsive to the community needs

7) Human Resource for Health (HRH)

- Objective 1: To establish a governance and leadership structure for HRH policy, planning, production and management
- Objective 2: To ensure availability of healthcare providers where required
- Objective 3: To establish ways of improving quality and productivity of HRH
- Objective 4: To improve retention of health workers and revitalize the concepts of continuous professional education and training
- Objective 5: To update medical education curriculum with a focus on community-oriented medical education

8) Healthcare Financing & Public Private Partnership

- Objective 1: To engage private sector in poorly covered areas by the Public Health Sector
- Objective 2: To enhance accessibility and availability of Free of Cost (Government Sharing) Health Services to the poor segment of the society by incorporating the private sector
- Objective 3: To ensure sustainable Financial-Models in Healthcare

9) Health Disaster Management and Emergency Medicine

- Objective 1: Enhanced Coordination among all stakeholders
- Objective 2: Prioritization of highly vulnerable areas for targeted interventions
- Objective 3: Improved capacity of relevant staff in emergency response and relief mechanism

10) One Health including Environmental Health

- Objective 1: To provide adequate and safe drinking water as well as adequate sanitation facilities to communities
- Objective 2: To bring measurable reduction in food-borne diseases and food poisoning cases by provision of safe food
- Objective 3: : To bring improvement in air quality for reduction of Acute Respiratory Infection cases in the most vulnerable population (e.g. women, children and elderly)

- Objective 4: To protect the people and environment from the harmful and adverse effects of Hospital Waste by implementation of Hospital Waste Management Rules
- Objective 5: Establish and maintain high-level commitment at all relevant levels of government and key stakeholders including the private sector
- Objective 6: Institutionalize One Health to achieve sustainability and legitimacy of the One Health Platform to coordinate multi-sectoral collaboration
- Objective 7: Strengthen prevention, preparedness and response to zoonotic diseases, AMR and biosecurity threats
- Objective 8: Strengthen capacities (competencies, tools, strategic thinking, leadership, coordination) of the One Health platform and other stakeholders to effectively address zoonotic disease threats
- Objective 9: Enhance behavior change communication and awareness of the value of One Health Approach
- Objective 10: To ensure provision of women friendly WASH services including Menstrual Hygiene Management for both adolescent girls and women, at all levels not limited to only office spaces, health facilities, medical educational institutes etc.

The Situation Analysis conducted prior to the development of the Health Sector Strategy shows that Punjab has several shortages in its basic health indicators pertaining to RMNCH&N, communicable and non-communicable profiles. These gaps have been dealt under the strategy to efficiently tackle these issues.

Additionally, the mechanisms towards achieving desired objectives will require major interventions in governance and accountability, human resource cadre development and capacity building, accounting for shortages in specific cadres of human resource requirements, introduction of new concepts and reforming the business of the Health Department towards this direction. The situation analysis also depicts that Punjab undertook major steps in the past to meet these ends, however these were in silo and counterproductive in setting a health systems approach.

Further, governing health requires a synergistic set of policies, and must be supported by structures and mechanisms that facilitate collaboration across all health sectors. Tackling this together, with engagement of people would be a defining factor for attaining success. This requires ensuring inter-sectoral action, through incorporation of health in all approaches. These approaches not only emphasize improving the coordination and integration of government activities for health but also by: i) governing through collaborating; ii) governing by engaging citizens; iii) governing by robust regulation and regulatory mechanisms; iv) governing through independent agencies and expert bodies; and v) governing by adaptive policies, resilient structures and foresight.

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List of Acronyms

ADP	Annual Development Programme
AE	Actual Expenditures
ANC	Antenatal Care
BCC	Behavior Change Communication
BE	Budget Estimates
BHU	Basic Health Unit
BSN	Bachelor of Science in Nursing
BTA	Blood Transfusion Authority
CAM	Complementary and Alternative Medicine
CD	Civil Dispensary
CMW	Community Midwife
CPR	Contraceptive Prevalence Rate
CEO	Chief Executive Officer
CRVS	Civil Registration and Vital Statistics
DGHS	Director General Health Services
DHIS	District Health Information System
DR- TB	Drug Resistant Tuberculosis
DHO	District Health Officer
DHQ	District Headquarter
DHA	District Health Authority
DCP	Disease Control Priorities
DDHO	Deputy District Health Officer
EmONC	Emergency Obstetric & Newborn Care
EPHS	Essential Package of Health Services
EML	Essential Medical List
FD	Finance Department
FY	Financial Year
FWWs	Female Welfare Workers
GDP	Gross Domestic Product
GNI	Gross National Income
GNP	Gross National Products
GoP	Government of Pakistan
HD	Health Department
HRH	Human Resource for Health
HSRU	Health Sector Reforms Unit
HSS	Health Sector Strategy
HF	Health Facility

IMR	Infant Mortality Rate
IEC	Information, Education and Communication
ICD	International Classification of Diseases
IRMNCH&NP	Integrated Reproductive Maternal Newborn, Child Health & Nutrition Program
LHS	Lady Health Supervisor
LHV	Lady Health Visitor
LHW	Lady Health Worker
M&E	Monitoring & Evaluation
MCH	Mother & Child Health
MDG	Millennium Development Goal
MMR	Maternal Mortality Rate
MNCH	Maternal, Newborn and Child Health
MP	Malarial Parasite
MSDS	Minimum Service Delivery Standards
MTBF	Medium Term Budgetary Framework
MTDF	Medium Term Development Framework
MWRA	Married Women of Reproductive Age
MICS	Multiple Indicator Cluster Survey
MHM	Menstrual Hygiene Management
MPI	Multidimensional Poverty Index
MEA	Monitoring and Evaluation Assistant
NCD	Non-Communicable Disease
NGO	Non-Government Organization
NHA	National Health Accounts
PMA	Pakistan Medical Association
NNS	National Nutrition Survey
OH	One Health
OOP	Out of Pocket Expenditures
PMU	Project Management Unit
PDHS	Pakistan Demographic Health Survey
PDMA	Punjab Disaster Management Authority
PHC	Primary Healthcare
PHC	Punjab Healthcare Commission
PMDC	Pakistan Medical & Dental Council
PMF	Punjab Medical Faculty
PNC	Pakistan Nursing Council
PNRA	Pakistan Nuclear Regulatory Authority
PPP	Public Private Partnership
PSDP	Public Sector Development Programmes

PSE	Private Sector Engagement
PSPs	Private Sector Providers
PSPU	Policy & Strategic Planning Unit
PSLM	Pakistan Social and Living Standards Measurement
PITB	Punjab Information Technology Board
PHSS	Punjab Health Sector Strategy
QOC	Quality of Care
RIC	Rawalpindi Institute of Cardiology
RHC	Rural Health Centre
SBA	Skilled Birth Attendant
SDG	Sustainable Development Goal
SM&IPU	Strategic Management & Internal Policy Unit
SOPs	Standard Operation Procedures
TFR	Total Fertility Rate
THQ	Tehsil Headquarter Hospital
TAC	Technical Advisory Committe
UHC	Universal Health Coverage
UN	United Nations
UHC	Universal Health Coverage
VPD	Vaccine Preventable Diseases
WHA	World Health Assembly
WHO	World Health Organization
WASH	Water and Sanitation Hygiene

Section 1

Context, Methodology & Process

1. Global Context:

The interest in global health issues has greatly increased in recent years. This has resulted in an upsurge in health initiatives driven and supported by United Nation (UN) agencies, Development Partners, private enterprises and national confederations.

Further, as the world prepares to meet the challenges of an ambitious set of Sustainable Development Goals (SDGs)[1], with a lot left to be achieved from the Millennium Development Goals (MDGs) targets of 2015; the member states need to develop a road map to achieve not only the targets set by the SDGs, but also of the many commitments that have been signed under the auspices of the World Health Assembly (WHA) and United Nations (UN). The World Health Organization (WHO) has developed several global health sector strategies to cover communicable diseases, non-communicable diseases and health systems approaches endorsed by the Sixty-Ninth World Health Assembly (WHA) on 28 May 2016. Additionally, Pakistan along with all Member States is signatory to International Health Regulations (IHR) 2005[2], which calls for the countries to work together to prevent, detect and respond to public health emergencies under the IHR (2005). The signatory countries have also agreed to work towards Universal Health Coverage (UHC) and to build resilient health systems, which can adapt and respond to the challenges posed by outbreaks and other health hazards and emergencies of national and international concern. Tackling Antimicrobial Resistance is another front to meet under the global commitment scenario. Bringing equity and equitable distribution of standardized quality health services to the population across the globe are trending areas, concerning Pakistan like other countries of the world.

Additionally, health worker migration has been increasing worldwide over the past decades, especially from lower income countries with already fragile health systems. To address this challenge, the WHO Global Code of Practice on the International Recruitment of Health Personnel was adopted by the 63rd WHA on 21 May 2010. The Code aims to establish and promote voluntary principles and practices for the ethical international recruitment of health personnel and to facilitate the strengthening of health systems. Member States should discourage active recruitment of health personnel from developing countries facing critical shortages of health workers[3].

The WHO Global Code encourages information exchange on issues related to health personnel and health systems in the context of migration. In line with the requirements of Articles 9.2 and 7.2(c) of the Code, Member States submit national reports to WHO every three years on measures taken to implement the Code. Further, Global Strategy on Human Resources for Health Workforce 2030[4] has defined the broader HRH requirements and strategic areas for enhancing coverage and performance of the HRH, these parameters have to be met with for improving performance of Health workforce in Punjab.

While the Federal Government is signatory to these global commitments, the true implementation lies with the Provincial Governments post devolution; the provincial governments therefore, need to realign their strategic objectives, outcomes and outputs in line with the above needs. Given this rationale, the Punjab Government, desires to revisit the Punjab Health Sector Strategy of 2012-20, to include these emerging concepts, in order to set the course in tandem with global needs.

[1] https://www.un.org/sustainabledevelopment/health/

[2] Strengthening Health Security by Implementing the International Health Regulations (2005), World Health Organization https://www.who.int/ihr/publications/9789241580496/en/

[3] Managing Health Workforce migration – The Global Code of Practice - World Health Organization - https://www.who.int/hrh/migration/code/practice/en/

[4] Global strategy on human resources for health: Workforce 2030

2. National Context

The Ministry of Health (MoH) was devolved in 2011 as a result of the 18th constitutional amendment; while residual health related functions in the Federal Legislative Lists (Part I & II) were assigned to different federal ministries. To execute federal health functions effectively, the Cabinet decided in May 2013, to create Ministry of National Health Services, Regulations and Coordination (M/o NHSR&C).

The National Ministry is currently leading the health and population sector through consolidation of health and population functions at the federal level and developing coherence with the provincial departments of health & population welfare and other partners. The Ministry of National Health Services, Regulations and Coordination (M/o NHSR&C) has developed the National Health Vision 2016-25, in congruence with the Government of Pakistan's Vision 2025 and in consultation with provincial/area governments and other stakeholders.

The purpose of the document is to provide an overarching national vision and a common direction that harmonizes provincial and federal efforts. The vision is also aligned with the international health priorities, commitments and Sustainable Development Goals (SDGs). Additionally, the ministry at the national level in coordination with the UN agencies, development partners and in consonance with the provincial governments is undertaking the global commitments signed by Pakistan.

Again, while the national ministry signs and develops these uniformly set approaches, the implementation lies with the provincial governments post devolution. The Punjab Government, therefore in strive to set the guiding principles and strategic objectives for this agenda, has embarked upon the development of the Punjab Health Sector Strategy.

3. Punjab Context

The Government of Punjab has set forth the development of Punjab Health Sector Strategy as a sequel to the previously developed Punjab Health Sector Strategy (PHSS) 2012-20, under two preludes:

I In lieu of the global and national context given in text above, and;

ii In lieu of the need to accommodate the health sector priorities of the new political government that has come into power in 2018. Since the new government has its own political roadmap related to improved health sector, there is a new drive to give due regard to the preferential sectors of the incumbent government that emphasize on areas that can ensure remarkable progress towards attainment of Sustainable Development Goals (SDGs).

Within the ambit of the above, the Strategy envisions to guide health department with a sense of direction, purpose and urgency by prioritizing policy related interventions consistent with the financial resources, likely to be tied with the Medium-Term Budgetary Framework (MTBF).

The Punjab Health Sector Strategy includes two sections in the narrative below; section one depicts the Situation Analysis and section two outlays the Strategic Framework. The format of the document is designed to be reader friendly and easy to correlate the Situation Analysis Section with the Strategic Framework Section.

4. Methodology & Development Process:

The Joint Assessment of National Health Strategies (JANS) tool for development and assessment of Health Sector Strategy was used. This tool is developed to assist and ensure that there is an effective health strategy in place, which all partners can support. The aim is to enable achievement of health goals through ensuring the health strategy is sound, relevant, achievable and encouraging alignment including funding of partners behind a single strategy.

The Joint Assessment of National Health Strategies (JANS) can be used in two main ways:

I. During development of the health strategy: to help ensure the process for developing the strategy and its contents are appropriate to the particular needs and the resulting strategy will have wider ownership and commitment;
ii. When the strategy is near completion: to review the strategy as a basis for decisions on how to support and fund the strategy.

Given the diversity, the JANS tool can also be used for later amendments in the Health Sector Strategy, being living documents, amenable to changes as the process takes its course in implementation.

The Punjab Health Sector Strategy Development process started with preparatory meetings with all the stakeholders, leading to identification of key thematic areas. A two-day consultative meeting involving all technical experts and stakeholders to develop the health strategy was held in Lahore in November 2018. Basic purpose was to develop a situation assessment on the basis of inputs of all technical experts and accordingly identifying major strategic initiatives and strategic framework. Thematic areas identified in the consultative setting included the following considerations:

- Enhanced financial allocations for health to ensure healthcare a priority agenda in the budget.
- To divert more resources to preventive and primary healthcare programs moving towards universal health coverage and population control.
- Improving institutional capacities and ensuring a results-based culture.
- Networking, partnership and alliance building involving all sectors and actors to comply with national and international standards and commitments like SDGs for achieving desired health outcomes.
- To institutionalize a governance and accountability system at all three tiers (National, Provincial and District).
- To redefine the role of the government.
- Regulation and mainstreaming of the private sector.

The major thematic strategic areas identified by the experts during the consultative meeting include the following:

1) Maternal and Child Health, Nutrition & Family Planning
2) Preventive Health Services including Communicable and Non-Communicable Diseases (NCDs)
3) Patient Safety and Quality of Care
4) Medicines and Biomedical Equipment
5) Health Management Information System
6) Health Governance and Accountability
7) Human Resource for Health
8) Healthcare Financing & Public Private Partnership (PPP)
9) Health Disaster Management and Emergency Medicine
10) One Health – Multi-Sectoral Engagement (including Environmental Health)

This Health Sector Strategy has been developed as a product of collective efforts of experts and key officials of the Primary & Secondary Healthcare Department Punjab, under the leadership of the Minister of Health. The PHSS 2012-20, DHIS, Punjab Health Survey 2016-17 and 2017-18, MICS 2017 and several program specific strategic plans and guidelines and relevant international documents were referenced to guide the development of this strategy. The document was finalized after extensive consultations and series of review meetings of relevant stakeholders.

The process is depicted in Figure 1 below.

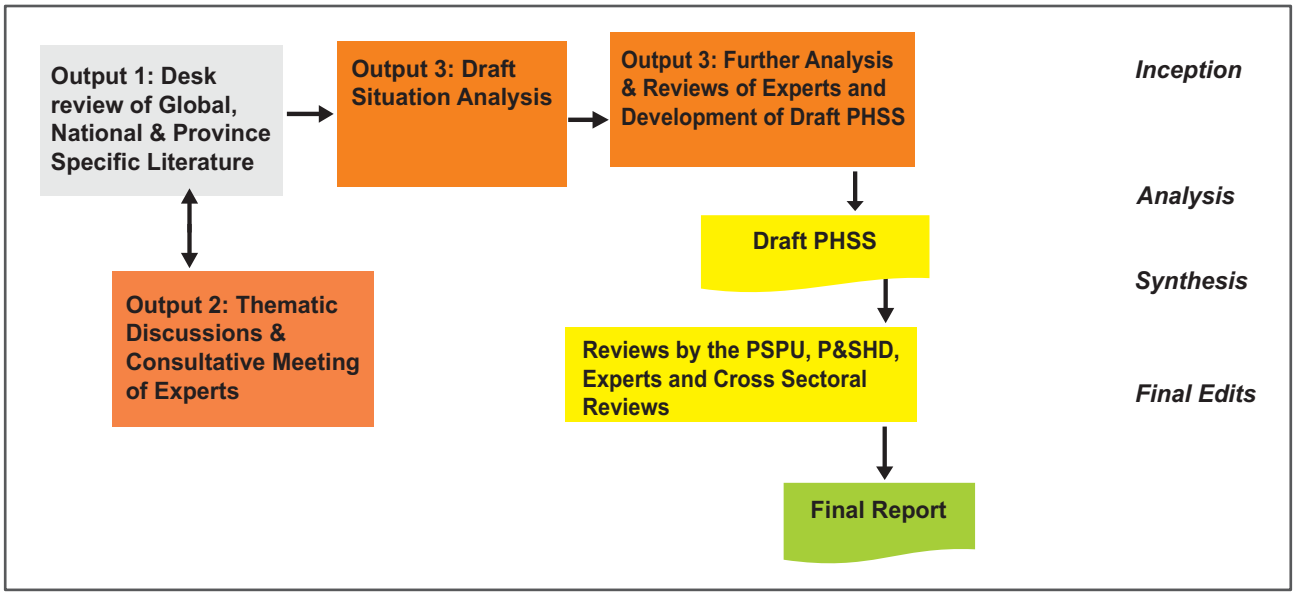


FIGURE 1: PROCESS OF DEVELOPMENT OF PHSS 2019-28 – AUTHOR'S DEPICTION

5. Layout of the Punjab Health Sector Strategy (PHSS)

The PHSS is laid out into five sections in the narrative above and below this section; the first section presents the context and process of development adopted in the making of this strategy. The second section presents the situation analysis, the third section presents the thematic dissections and agreed thematic areas of the PHSS built through an extensive consultation process, the fourth grounds the strategic framework of the strategy, and the fifth and last portion presents the broad implementation arrangements of the PHSS. It is essential that the strategy is translated into Operational Framework for a period of four years and its outcomes, outputs and strategic activities tied to the Medium-Term Budgetary Framework (MTBF) through output-based budgeting approach and broad-based overall implementation plan is critical to be presented at this stage, informing the later development of the operational framework. The sections are given below:

Section 1: Context, Methodology & Process

Section 2: Situation Analysis

Section 3: Discussion & Inputs by Experts

Section 4: Strategic Framework

Section 5: Implementation Arrangements

Section 2

Situation Analysis

1. Geography & Demographic Indices

Pakistan covers an area of 796,095 km² (307,374 sq. miles), being the 36th largest nation by total land area. Apart from the 1,046 km (650 miles) coastline along the Arabian Sea, Pakistan's land borders are a total of 6,774 km (4,209 miles) - 2,430 km (1,510 miles) with Afghanistan, 523 km (325 miles) with China, 2,912 km (1,809 miles) with India and 909 km (565 miles) with Iran. The territory of Pakistan mostly lies between latitudes 23° and 37° N (a small area is north of 37°), and longitudes 61° and 78° E (a small area is west of 61°)[5].

The total population of Pakistan is 207.77 million[6] (sixth most populous country of the world); the male to female ratio is 105.07 males: 100 females (51% Males and 49% Females[7]), the population density is 231 people per square kilometers, with 65.6% of the population living in rural areas and 34.4% of the population residing in the urban areas, the average urban growth rate is 2.7%, while the literacy rate is 58% (Pakistan Economic Survey 2017-18). Punjab leads the charts with over 110 million population. The figures show an overall increase in population by 57% over the years from a baseline of 1998 census, while the population increased by 146.6 % since 1981 census. There is a decline in the population growth rate at national level and in Punjab and Sindh Provinces, while an increase has been observed in the Provinces of KP, Balochistan and FATA[8].

Punjab is the most populous province of Pakistan with more than 50% of the country's total population. Per 1998 census population of the province was 72.58 million which has now increased to 110 Million (Punjab has population estimates of 110,012,442 - with 55,958,974 male, and 54,046,759 female population). There are approximately 493 people living per square kilometers as compared to the national value of 245 (population density). A large proportion of population i.e. approximately 68% lives in the rural areas of Punjab. According to the Population Census of Pakistan 2017[9] (Table 1), the trends of urbanization in Punjab are given in Table 1 below:

TABLE 1: POPULATION CENSUS 2017 – PUNJAB FIGURES

Description	Urban	Rural	Total
POPULATION	40,387,298 (36.7%)	69,625,144 (63.3%)	110,012,442
MALE	20,760,984 (37.1%)	35,197,990 (62.9%)	55,958,974
FEMALE	19,621,729 (36.30%)	34,425,030 (63.7%)	54,046,759
TRANSGENDER	4,585 (68.35%)	2,124 (31.65%)	6,709
HOUSEHOLD	6,389,733 (37.36%)	10,714,102 (62.64%)	17,103,835

[5] http://www.fao.org/pakistan/fao-in-pakistan/pakistan-at-a-glance/en/
[6] Pakistan Economic Survey 2017-18
[7] Pakistan Population Census 2017, Bureau of Statistics
[8] Pakistan Bureau of Statistics
[9] http://www.pakinformation.com/population/punjab.html

2. Socio Economic Indices

Pakistan is spending 0.5 to 0.8 percent of its GDP on health over the last 10 years. These percentages are less than the WHO benchmark of at least 6 percent of GDP required to provide basic and lifesaving services. During 2015-16, total government expenditure increased by 13 percent over 2014-15 and during current fiscal year (July March) 2016-17, the expenditure remains at 145.97 billion showing an increase of 9 percent over the same period of last year. According to World Bank[10], currently Pakistan's per capita health spending is US $ 37.992 which is below than the WHO's low income countries benchmark of US$ 86. The ratios of total health expenditures to GDP according to National Health Accounts (NHA) 2015-16 is 3.1% while the ratio of general government health expenditures to total general government final consumption expenditure is 9.7%. The ratio of private sector health expenditures according to NHA over total household final consumption expenditure is 2.5%[11].

Pakistan as the world's sixth most populous country with a population of over 200 million is categorized as a lower middle-income country with a per capita income of US$1,641 in 2017/18. Pakistan's total expenditure on health as a percentage of the GDP is around 2.8 per cent, which is quite low as compared to 5 to 19.7 per cent in the developed countries of the world. The effectiveness of any country's health sector depends upon its budget allocation; however, Pakistan is spending 2.8 percent of its GDP on healthcare. The increase has been too gradual to be noteworthy, in 2011 for example, public health spending in Pakistan was less than 1 percent of the GDP, and over the last eleven years has not increased significantly. Additionally, weak management systems and poor governance have resulted in a significant amount of this spending being wasted[12] (Table 2).

TABLE 2: PER CAPITA HEALTH EXPENDITURE – PUNJAB & PAKISTAN

PER CAPITA HEALTH EXPENDITURE - PROVINCIAL WISE				
FISCAL YEAR	PUNJAB		PAKISTAN	
	Per Capita Total	% Increase (Nominal)	Per Capita Total	% Increase (Nominal)
2008 - 09	436	-	480	-
2009 - 10	576	31.96	527	9.78
2010 - 11	704	61.21	715	48.90
2011 - 12	748	71.17	830	72.92
2012 - 13	858	96.39	1,034	115.38

Pakistan Social and Living Standards Measurement (PSLM) survey conducted in 2014/15, shows that 38.8% of the population of Pakistan are poor according to the MPI. The average intensity of deprivation, which reflects the share of deprivation, which each poor person experiences on average, is 50.9%[13]. The findings show that the population is impoverished more than assumed and is more vulnerable for catastrophic ailments and out-of-pocket payment while accessing health services.

[10] https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=UA
[11] National Health Accounts 2015-16
[12] World Bank 2013-14
[13] Pakistan Social and Living Standards Measurement (PSLM) survey conducted in 2014/15

PSLM 2014/15, further notes the country's Multidimensional Poverty Index at 0.197. This indicates that poor people in Pakistan experience 19.7% of the deprivations that would be experienced if all people were deprived in all indicators. Secondly, it must be noted that the MPI is a product of two essential components: the poverty "headcount" and the "intensity" of deprivation. Using the same data from the 2014/15 PSLM survey, the country's multidimensional poverty "headcount ratio" was estimated at 38.8% of the population. This means that 38.8% of the population of Pakistan is poor according to the MPI. The average intensity of deprivation, which reflects the share of deprivation, which each poor person experiences on average, is 50.9%[14].

Multidimensional Poverty Study 2016 conducted by the Planning Commission of Pakistan shows that the headcount ratio (H) of multidimensional poverty is 38.8%, whereas the average intensity of deprivation (A), which reflects the share of deprivations each poor person experiences on average, is 50.9%. That is, each poor person is, on average, deprived in almost half of the weighted indicators. Since the MPI is the product of H and A, it yields a value of 0.197. This means that multidimensional poor people in Pakistan experience 19.7% of the total deprivations that would be experienced if all people were deprived in all indicators[15].

Poverty has often been discussed in terms of income only. Figure below compares income poverty, measured by the percentage of the population living below poverty line by cost of basic needs approach and multidimensional poverty deprivation in Pakistan. Figure 2 shows that income poverty only tells a part of the story. The multidimensional poverty headcount is 21.5% points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions[16].

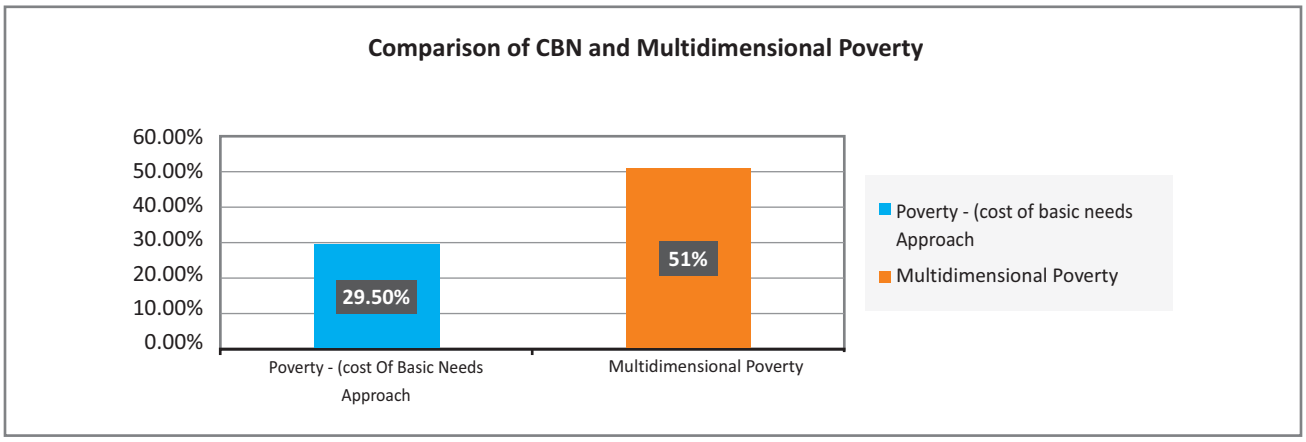


FIGURE 2: MULTIDIMENSIONAL POVERTY IN PAKISTAN, 2016; PLANNING COMMISSION OF PAKISTAN 2016

[14] Pakistan Social and Living Standards Measurement (PSLM) survey for the 2014/15 period

[15] Multidimensional Poverty in Pakistan, Ministry of Planning, Development and Reforms, GOP, 2016.

[16] Multidimensional Poverty in Pakistan, Ministry of Planning, Development and Reforms, GOP, 2016.

Punjab has the Multidimensional Poverty Index (MPI) value of 0.152, which is better as compared to the value for other provinces and for the entire country. It is, however, worth mentioning that there is a substantial divide between the urban and rural MPI values for Punjab Figure 3, where the lowest is recorded to be for Lahore (0.017) and the highest is recorded for Rajanpur (0.357), creating a difference of 2000%.

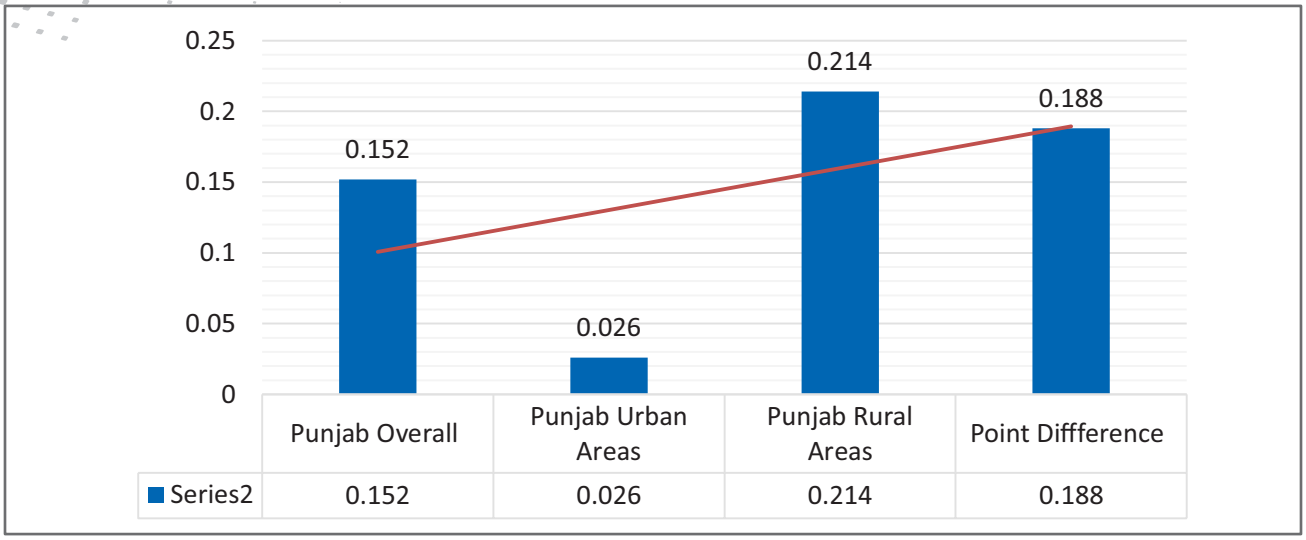
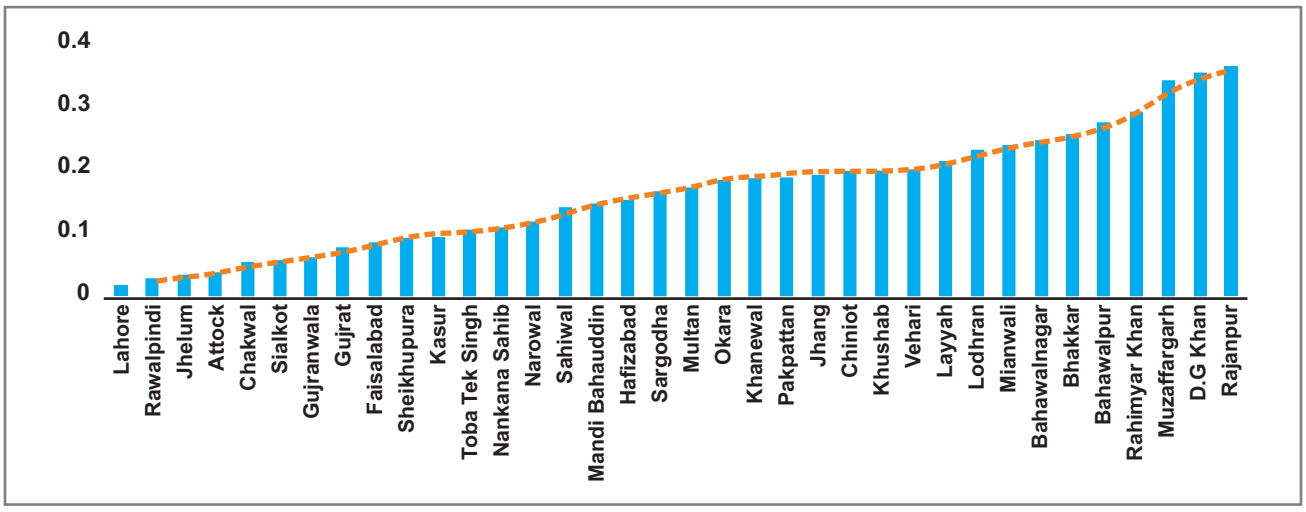


FIGURE 3: PUNJAB MPI VALUES BY URBAN & RURAL (MULTIDIMENSIONAL POVERTY IN PAKISTAN, 2016; PLANNING COMMISSION OF PAKISTAN 2016)

Further analysis of MPI at the district level reveals differences between all 36 districts are substantial. For example, the lowest MPI is 0.017 for Lahore and the highest value is 0.357 for Rajanpur (south district). The difference between the two is manifolds (2000%), difference between Rajanpur and Punjab's average MPI value is also considerable (137%). Figure 4 below presents MPI for Punjab at district level.



The association between poverty and ill health is well established yet there is very little done to break the vicious cycle of poverty and ill-health in Pakistan[17]. Unfortunately, there exists a significant disparity in coverage of health services by the wealth quintiles (Table 3).

[17] Inayat Thaver, et.al. Department for International Development (UK), Poverty and ill-health: Challenges, Initiatives and Issues in Pakistan. Available: http://www.sasnet.lu.se/EASASpapers/PHDZulfiqarBhutta.pdf PUNJAB HEALTH SECTOR ASSESSMENT | Asian Development Bank

TABLE 3: SELECTED INDICATORS SHOWING DISPARITY IN COVERAGE OF HEALTH INTERVENTIONS AMONG THE WEALTHY AND THE POOR IN PAKISTAN (SOURCE PDHS 2018)

INDICATORS	COVERAGE BY WEALTH QUINTILES (%)		
	LOWEST	HIGHEST	DISPARITY GAP
Proportion of Pregnant Mother receiving ANS by SBA	67.7%	98.2%	30.5%
Proportion of Pregnant Women receiving 2/+ Doses of TT	43.8%	89%	45.2%
Proportion of Women Delivering in Health Facility	42.8%	91.8%	49%
Proportion of Mother receiving PNC for Last Birth within first 24 hr.	44.1%	86.7%	42.6%
Current Use of Modern Contraceptives in MWRA	17.3%	29.6%	12.3%
Proportion of Fully immunized Children 12-23 Months of Age	35.6%	80.2%	44.6%

3. Human Development Indices (HDIs)

The United Nations Development Programme (UNDP) Human Development Report 2018 Statistical Update for Human Development Indices and indicators shows that, Pakistan has experienced a marginal increase in the value of HDI from 0.560 in 2017 to 0.562 in 2018. However, over the years, Pakistan has indeed seen greater progress in its Human Development Indicators, with the HDI values increasing from 0.404 in 1990 to 0.562 in 2017. Overall, there has been an improvement in Human Development in Pakistan, however, this progress is lower when compared to other countries in South Asia[18] (Table 4).

TABLE 4: TRENDS IN PAKISTAN'S HDI COMPONENT INDICES 1990-2017 (SOURCE: UNDP 2018 REPORT PAKISTAN)

Year	Life Expectancy at Birth	Expected years of Schooling	Mean years of Schooling	GNI per capita (2011 PPP$)	HDI Value
1990	60.1	4.6	2.3	3,195	0.404
1995	61.4	5.0	2.8	3,387	0.428
2000	62.7	5.4	3.3	3,451	0.450
2005	63.8	6.5	4.5	4,101	0.500
2010	65.1	7.5	4.7	4,447	0.526
2015	66.3	8.2	5.1	4,978	0.551
2016	66.5	8.6	5.2	5,155	0.560
2017	66.6	8.6	5.2	5,311	0.562

4. Health Infrastructure & Organization of Services

4.1 Public Sector

Punjab is more than half of Pakistan, and has therefore a large infrastructure supporting the healthcare needs of the population. Table 5 below, depicts the enormity of the Health Infrastructure in Punjab. The total number of facilities is 5,717 and the total strength of beds is 43,006. With the current population of Punjab standing at 110,012,442, a single bed covers a population of 27,462. Given the standards of one bed catering for 1000 population, much less than half of the population is currently being covered by the hospitals admitting patients in Punjab.

[18] The United Nations Development Programme (UNDP) Human Development Report 2018

TABLE 5: NUMBER OF PRIMARY, SECONDARY & TERTIARY HEALTH FACILITIES WITH NUMBER OF BEDS
SOURCE DHIS PUNJAB 2018

Facility Type	Number	Beds
THOS	45	18816
DHQs	26	5572
THQs	118	6597
Civil	48	130
RHCs	310	5859
BHUs	1161	2308
Dispensaries	154	0
SHC	180	0
TBC	27	5
MCH	275	27
Others	3373	3692
Total	**5717**	**43006**

In November 2015, Health Department was bifurcated into two discrete departments with their separate line of command and staffing, Specialized Health and Medical Education (SH&ME) and Primary and Secondary Healthcare Department (P&SHD). The Primary & Secondary Healthcare Department (P&SHD) is concerned with improving health service delivery at primary and secondary level of care, while the Specialized Healthcare & Medical Education Department (SH&MED) deals with improving patient care at tertiary and specialized level coupled with quality medical education. The P&SHD (Figure 5) includes the Secretary and Special Secretary at the secretariat level, the DGHS for supervising health services in the periphery. He/she is further supported by the Directors of Communicable Disease Control, EPI, Basic Health Services/Headquarters, Policy and Strategic Planning Unit (PSPU), IRMNCH & Nutrition, Planning & Evaluation, number of Additional and Assistant Directors Health Services at the Provincial Directorate and Directors Health Services at Divisional Headquarters.

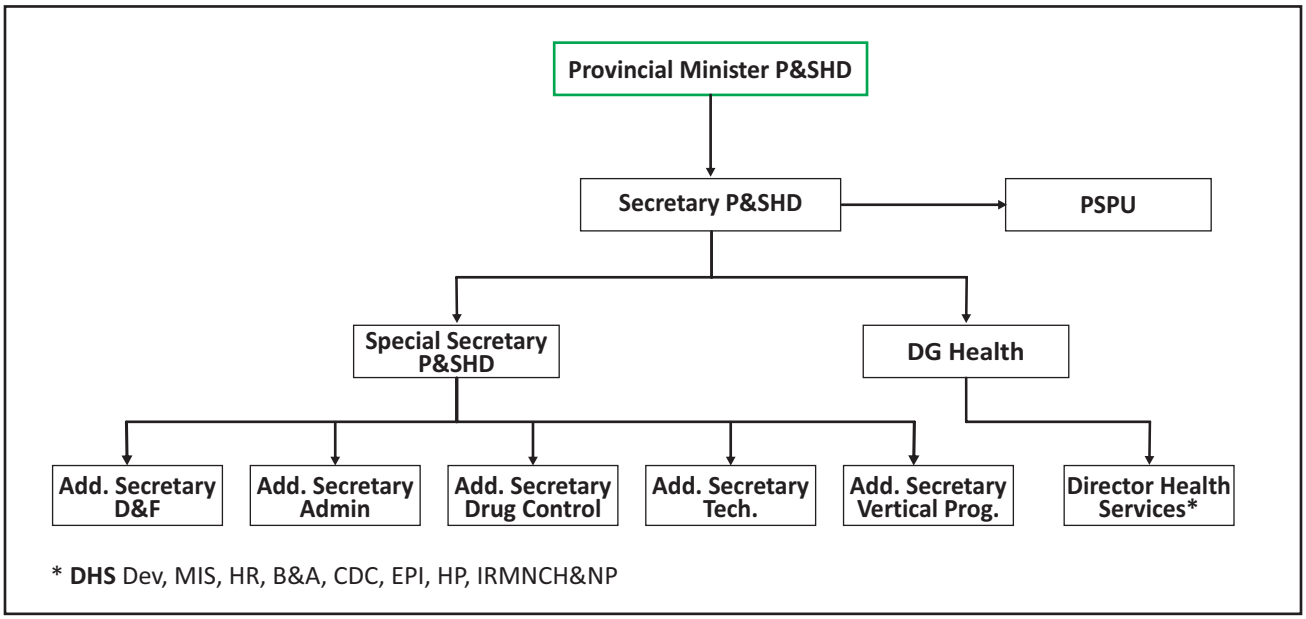


FIGURE 5: ORGANIZATIONAL STRUCTURE - P&SH DEPARTMENT

The role of the DG Health is seen to have been minimized over the years, with the Secretary and his/her team taking more and more functions of the DG office, observed to have grown more after the bifurcation of the department. Decreasing reliance on DG office, being the implementing arm of the department has resulted in entrusting of powers in companies and officiating of functions mainly through the Secretary office – the Secretary's role on policy matters is therefore seen to be shifted more towards service delivery.

4.1.1 Specialized Healthcare & Medical Education

Specialized Healthcare & Medical Education includes tertiary care hospitals, Medical Universities, Medical Institutes, Nursing Schools, and affiliated organizations such as Punjab Pharmacy Council and Institute of Blood Transfusion Services (IBTS) and delivers tertiary level healthcare services. List of public and private Nursing Institutes, Medical Colleges/Universities, PMDC recognized Medical and Dental Colleges and Post Graduation Medical Institutions in Punjab is given at Annexure A, B, C and D respectively.

Organization of Services

Tertiary care is specialized consultative healthcare, usually for inpatients and on referral from a primary or secondary health professional. Following two types of hospitals fall in this category: A major hospital that usually has a full complement of services including pediatrics, general medicine, various branches of surgery and psychiatry. Secondly, the specialty hospitals dedicated to specific sub-specialty care (pediatric centers, oncology centers, psychiatric hospitals). Patients will often be referred from smaller hospitals to a tertiary hospital for major operations, consultations with sub-specialists and if/when specialized intensive care facilities are required.

TABLE 6: CAPACITY OF SH&ME (SOURCE: SH&ME DEPARTMENT, GOVERNMENT OF PUNJAB)

SERVICE DELIVERY STRUCTURE [19]		HUMAN RESOURCE	
Institutions	**No.**	**Cadre**	**No.**
Teaching/ Tertiary Care Hospitals	49	Doctors	10,000
Medical Universities	6	Nurses	15,682
Medical Institutes / Colleges	11	Allied Health Professionals	7100
Nursing Schools	44	Post-Graduate Trainees	8312

4.1.2 Primary & Secondary Healthcare Department

Primary and Secondary Healthcare Department (P&SHD) is the key department entrusted with the fundamental responsibility for the health of communities and the entire population. Free of cost consultation, diagnostic facilities and medicines are being provided to the patients particularly focusing on the poor and marginalized segments of the society.

[19] https://health.punjab.gov.pk/Index.aspx accessed on 8th June 2019

Organization of Services

Within P&SH Department the first level care facility is a Basic Health Unit (BHU) and is located at a Union Council. BHUs offer services to a population of approximately twenty-five to fifty thousand within its catchment area. BHUs provide promotive, preventive, curative services and referral to higher-level facilities when needed. For example, eight essential components of primary healthcare (PHC) services are implemented at BHU level and include 1. Health education, 2. Nutrition 3. Basic sanitation 4. Maternal and child healthcare (MCH) 5. Immunization 6. Control of endemic diseases 7. Treatment of common diseases comprising basic medical and surgical care and 8. Essential drugs .

The second level care facility is Rural Health Center (RHC) which provides health services to a population of one hundred thousand. In addition to service package delivered at the BHU, the RHCs provide diagnostic and inpatient services as well. Both BHUs and RHCs form the primary healthcare delivery system within Pakistan.

At secondary level, Tehsil Head Quarter (THQ) hospital serves a population of 0.5 to 1.0 million. At present majority of THQ hospitals have 40 to 60 beds. The THQ hospital provides promotive, preventive, curative, diagnostics, in patients, referral services and also specialized care. THQ hospitals are supposed to provide basic and comprehensive Emergency Obstetric and Newborn Care (EmONC). THQ hospital provides referral care to the patients including those referred by the Rural Health Centers, Basic Health Units, Lady Health Workers and other primary care facilities.

The District Head Quarter (DHQ) Hospital serves a population of 1 to 3 million, depending upon the category of the hospital. The DHQ hospital provides promotive, preventive, curative, advance diagnostics, inpatient services, advance specialist and referral services. All DHQ hospitals are supposed to provide basic and comprehensive EmONC. DHQH provides referral care to the patients including those referred by primary level health facilities and THQ hospitals.

TABLE 7: CAPACITY OF P&SHD (SOURCE: P&SHD PUNJAB)

SERVICE DELIVERY STRUCTURE		HUMAN RESOURCE	
Institutions	**No.**	**Institutions**	**No.**
District Headquarter (DHQ) Hospitals [20]	26	Doctors	8000
Tehsil Headquarter (THQ) Hospitals [21]	127	Nurses	6000
Rural Health Centers [22]	317	Allied Health Professionals	10,000
Basic Health Units [23]	2505	-	-
Dispensaries [24]	1190	-	-

[20] http://pshealth.punjab.gov.pk/Home/DHQ accessed on 8th June 2019
[21] http://pshealth.punjab.gov.pk/Home/THQ accessed on 8th June 2019
[22] http://pshealth.punjab.gov.pk/Home/RHC accessed on 8th June 2019
[23] http://pshealth.punjab.gov.pk/Home/BHU accessed on 8th June 2019
[24] http://pshealth.punjab.gov.pk/Home/Dispensaries accessed on 8th June 2019

From the supply side perspective, numbers of health facilities in Punjab have reached about 3,913 units (including BHUs, RHCs, MCH, THQs, DHQs, and Teaching Hospitals etc.) in 2016-17[25]. Public hospitals beds capacity has reached 45,000 beds whereas; the private sector holds a fairly large share of beds in number of 53,000[26]. More than half of all health facilities in public sector are BHUs, providing a range of preventive, curative and referral services. The hierarchy of health paraphernalia at the provincial level is depicted in Figure 6 below:

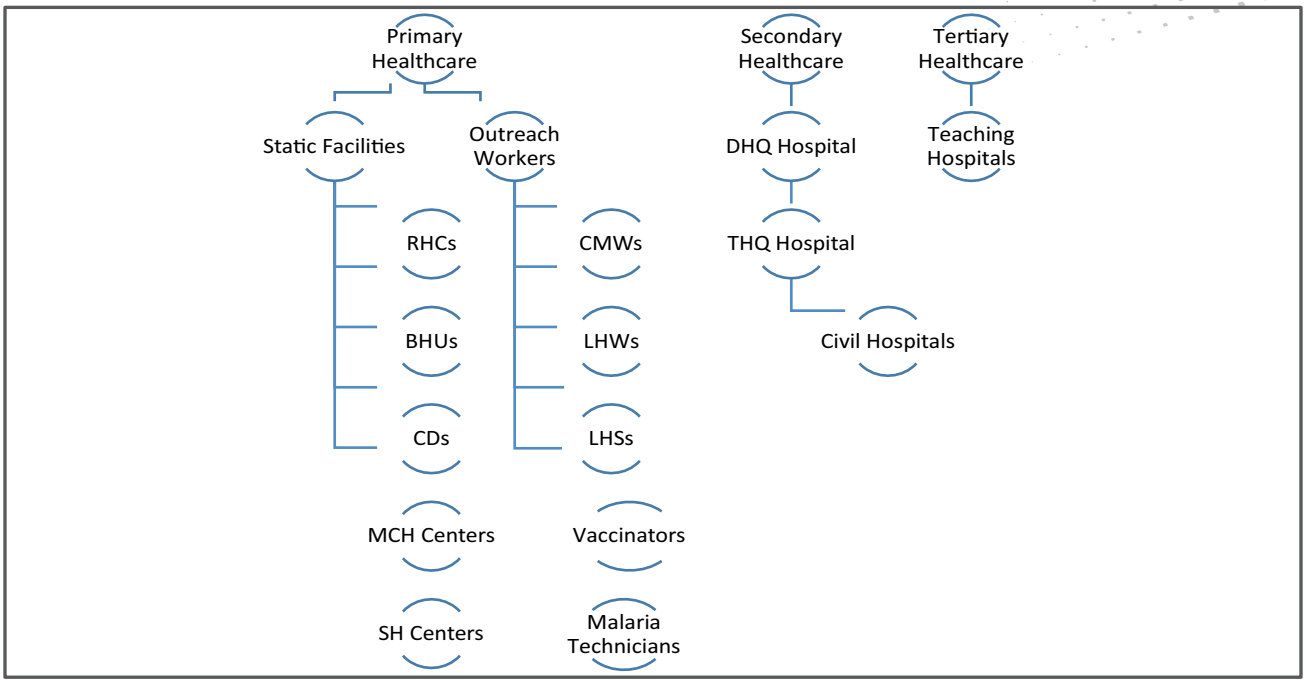


FIGURE 6: HIERARCHY OF PUBLIC SECTOR HEALTH FACILITIES AT PROVINCIAL LEVEL

5. Laws Governing Health Sector in Punjab

There are numerous laws that govern the health sector in Punjab. A list of applicable laws is provided below:

1) Public Health (Emergency Provisions) Ordinance, 1944
2) West Pakistan Epidemic Diseases Act, 1958
3) Punjab Vaccination Ordinance, 1958
4) Punjab Juvenile Smoking Ordinance, 1959
5) Punjab Prohibition of Smoking in Cinema Houses Ordinance, 1960
6) Punjab Pure Food Ordinance, 1960
7) Eye Surgery (Restriction) Ordinance, 1960
8) Pakistan College of Physician & Surgeons Ordinance, 1962
9) Medical and Dental Council Ordinance, 1962
10) Allopathic System (Prevention of Misuse) Ordinance, 1962
11) Unani, Ayurvedic and Homoeopathic Practitioners Act, 1965
12) Pharmacy Act, 1967

[25] District Health Information System (DHIS) Annual Report 2017
[26] Annual Health Development Report 2016-17

13) Medical Colleges (Governing Bodies) (Punjab Repeal) Ordinance, 1970

14) Pakistan Nursing Council Act, 1973

15) Drugs Act, 1976

16) Medical and Dental Degrees Ordinance, 1982

17) Punjab Health Foundation Act, 1992

18) Punjab Transfusion of Safe Blood Ordinance, 1999

19) Mental Health Ordinance for Pakistan, 2001

20) University of Health Sciences Lahore Ordinance, 2002

21) Prohibition of Smoking and Protection of Non-Smokers Health Ordinance, 2002

22) Protection of Breast-Feeding and Child Nutrition Ordinance, 2002

23) Punjab Medical and Health Institutions Act, 2003

24) Injured Persons (Medical Aid) Act, 2004

25) King Edward Medical University Lahore Act, 2005

26) Transplantation of Human Organs and Tissues Act, 2010

27) Punjab Healthcare Commission Act, 2010

28) Punjab Reproductive, Maternal, Neonatal and Child Health Authority Act 2014

29) The Fatima Jinnah Medical University, Lahore 2015

30) Pakistan Kidney and Liver Institute and Research Centre Act 2019

31) Medical & Teaching Institutions Act (MTI Act) 2019

The Government of Punjab as part of its move for institutional and structural reforms in the health sector, has recently approved Medical & Teaching Institutions Act (MTI Act) 2019. This Act will give autonomy to teaching hospitals by provision of single line budget. This autonomy will enable the hospitals to bypass lengthy bureaucratic approval mechanisms for efficient management of medical teaching institutions and better service delivery to the public.

In addition to these many rules have been made including Punjab Hospital Waste Management Rules 2014

6. Governance Structures & Institutional Reforms in Punjab

The Government of Punjab has embarked upon quite a number of enterprises – the lines below briefly sketch these initiatives and establishments:

6.1 The Policy & Strategic Planning Unit (PSPU)

The PSPU is the focal unit of Health Department, steering the reforms agenda in the province. The main functions of PSPU are: to provide support to the stakeholders and decision-makers in the health sector through health policy analysis and strategic planning; to coordinate technical assistance for developing and designing new strategic frameworks; to analyse health financing issues and work closely with the Financial Management Cell for advising the Health Department (HD) on annual development planning and budgeting with a strategic vision; and to develop a culture for participatory and evidence-based decision making and needs based data collection in the health sector through Knowledge Management Unit (KMU).

Initiatives taken up by PSPU include:

Monitoring and Evaluation Assistants (MEAs) for the monitoring of primary and secondary healthcare facilities (MEAs, a key component of the Health Reform Road Map Team, work through the auspices of the PSPU with linkage with the Punjab Information Technology Board (PITB) for real time online transmission of data from Android Tablets);

M&E system of Monitoring and Evaluation Assistants (MEAs) for monitoring health facilities was introduced in December 2013. The objective is to ensure the provision of rigorous and reliable third party data of primary and secondary healthcare facilities. To serve the purpose, 177 MEAs were hired for monitoring primary healthcare facilities (24/7 BHUs, BHUs, RHCs) and 44 MEAs for monitoring secondary healthcare facilities (DHQs, THQs) all over the Punjab. MEAs visits BHUs, 24/7 BHUs and RHCs morning and evening shifts. MEAs collect reliable and surprise data on the following major indicators:

- Staff Posting
- Staff Attendance
- Medicine & Supplies
- Equipment Functionality
- Utilities Availability
- Displays at Health Facility
- Disposal of Hospital Waste
- Deliveries Conducted at RHCs & BHUs
- OPD Cases
- Number of family planning clients and referred by LHWs
- Data on Nutrition & Hepatitis Indicators
- Bio Metric Devices installation & functionality status
- Patient Exit Interview
- CEmONC Functionality of THQs and DHQs
- Knockdown criteria for RHCs & BHUs

The data is collected as per well defined SOPs. Strong checks have been built into the system to ensure robust data collection and maintenance regime. A team of 5 Provincial Monitoring Co-ordinators was hired to randomly audit the data submitted by MEAs. They guide and mentor MEAs by clarifying any ambiguity regarding SOPs and resolve their technological, logistical and data related issues on day to day bases. Furthermore, they investigate any complaints by district health managers on the data submitted by MEAs and take appropriate action accordingly. Regular trainings of M&E staff is carried by PSPU to keep them align with SOPs and objective of monitoring regime.

MEAs visits data is presented in monthly meeting of CEOs chaired by Secretary Primary & Secondary Healthcare Department and Stock take meeting chaired by the Chief Minister Punjab to review progress of healthcare facilities.

Implementation of Hospital Waste Management Rules 2014 World Bank DLI based project regarding hospital waste management was implemented in selected 17 districts of Punjab and disbursement was made to Government of Punjab.

Revitalization of School Health & Nutrition Program launched in 2007, PSPU took the lead in hiring 1775 School Health and Nutrition Supervisors in 33 districts of Punjab, after developing detailed job description and curriculum for their capacity building. Later, the program was handed over to vertical programs for implementation till 2018 but practically this program was never implemented as it was envisioned. Now SHNP is being revamped, SHNSs have been provided with the anthropometric kits for the very first time by PSPU. The pilot testing phase through android application in 20 schools of 9 districts has been completed. This program will now be extended all over Punjab in the later phase.

Brick Kiln Workers Health Project PSPU in coordination with Development Impact Solutions (DIS) and Brick Kiln Association of Punjab (BKOP) implemented this project to provide basic health facilities to brick kiln workers with primary healthcare centers.

Civil Registration and Vital Statistics-CRVS The CRVS is an important system to register all deaths and births through a robust mechanism notifying all family members as well as the civil registration authorities according to the WHO global guidelines of births and deaths reporting ICD-10 coding. PSPU has been nominated as the focal office for this initiative. CRVS was launched in Punjab in December 2018 and now being implemented through mobile application at all secondary and tertiary healthcare facilities of both public and private sectors. PSPU has trained master trainers of all DHQ's, Tertiary care hospitals and health facilities being managed by federal government in Punjab as well as private teaching hospitals of Lahore and Multan. Detailed SOPs and guideline to operate android base application and web base dashboard have also been developed and disbursed by PSPU to all health facilities.

Establishment of Integrated Communication Cell-ICC Communication is an integral component of the healthcare system to prepare and share latest reports, events, researches, documents, for awareness in communities. Various programs/projects in the health Department are using different means of communication with a segregated approach and lack of uniformity in the messages while targeting the same audience. Therefore, the department has established an Integrated Communication Cell in PSPU with the support of UNICEF.

The purpose of this cell is to develop an Integrated Communication Strategy by engaging communication experts of all programs of P&SHD and DGHS and other stakeholders. Thus, aiming to design comprehensive, integrated messages, IEC material and other tools for community awareness on their health needs especially related to MNCH, Nutrition and Immunization with avoidance of duplication of messages & resources.

Establishment of Provincial One Health Unit PSPU has been nominated as provincial One Health Unit to take initiatives for environmental, human, wildlife and animal health to mitigate risk regarding recurrently emerging infectious diseases.

Establishment of Nutrition Cell to oversee the provincial nutrition strategies and interventions to identify the gaps, to mitigate strategic needs, to implement Prime Minister's vision to combat stunting/malnutrition through advocacy and multi sectoral approach.

In 2006, Government of Punjab launched the Punjab Health Sector Reforms Programme (PHSRP) to improve the coverage and quality of primary and secondary health services, in line with the commitments contained in Vision 2020 and to achieve the MDGs. PHSRP is an implementation and monitoring arm of the Health Department to institutionalize health sectors reforms. Key interventions under this programme aimed at provision of the missing facilities, equipment, drugs and human resource. Later this programme was restructured with a heavier mandate assigned and renamed as Policy and Strategic Planning Unit (PSPU).

In addition to the above-mentioned initiatives, PSPU is also leading multiple Technical Working Groups including Quality of Care, Child Survival, FP Task Force and Menstrual Hygiene Management.

6.2. Project Management Unit (PMU)

With the aim of reducing patient load on teaching hospitals and increasing public access to specialized healthcare at secondary health care facilities, PMU has revamped 40 health facilities including 25 DHQs and 13 THQs with a cost of Rs.13 billion. Following 6 points reform package was a prime focus of revamping process:

1) Strengthening of HR to improve healthcare service delivery by creating new clinical and administrative cadres
2) Infrastructural Development
3) Provision of high quality biomedical and non-biomedical equipment
4) Introduction of digital information Management system
5) Implementation of SOPs to ensure implementation of Minimum Service Delivery Standards
6) Outsourcing key clinical and non-clinical services to create administrative ease and functional efficacy

6.3 Punjab Health Facility Management Company (PHFMC)

Punjab Health Facility Management Company was created as a sequel of the People's Primary Healthcare Initiative (PPHI). Currently the PHFMC operates in 14 districts (Rahim Yar Khan, Chakwal, Vehari, Lahore, Faisalabad, Sahiwal, Kasur, Mianwali, Toba Tek Singh, Lodhran, Hafizabad, Pakpattan, DG Khan, Rajanpur) and manages the BHUs, RHCs and the Mobile Health Units. The model is the replica of the earlier outsourcing of service delivery models e.g. the Rahimyar Khan Model (RYK) and the PPHI model. Table 8, depicts the human resource, facilities, and mobile health units under contract with the PHFMC.

TABLE 8: PHFMC PORTFOLIO OF STAFF; STATIC FACILITIES AND MOBILE UNIT STAFFS (JULY 2017) – SOURCE PHFMC

PHFMC Operational Areas		BHU Staff		Monitoring staff	
Districts	14	Medical Officers	718	Regional Managers	2
BHUs	931	LHWs Workers	589	District Managers	14
RHCs	5	Dispensers	752	As. Manager Monitoring	14
Mobile Health Units (MHUs)	6	-	-	Monitoring Executives	14
MHUs to be added Next Year	14	-	-	Total Budget	Rs. 3,528,899 Million

6.4. Vertical Programmes

The Primary & Secondary Health Department, Punjab in addition to the services provided through its chain of static primary and secondary health care facilities, implements the following preventive healthcare programs to augment its access to the population at large:

1) National Programme for Family Planning & Primary Health Care
2) Epidemics Prevention and Control Program
3) Extended Program on Immunization (EPI)
4) Integrated Reproductive Maternal Newborn, Child Health & Nutrition Program
5) Prevention and Control of Hepatitis
6) Punjab AIDS Control Program (PACP)
7) Rollback-Malaria Program
8) TB Control Program
9) Health Education Program
10) School Health & Nutrition Program
11) Chief Ministers Stunting Reduction Program

Post devolution as a result of the 18th Constitutional Amendment, the provincial government integrated the Lady Health Worker (LHW), MNCH and Nutrition Programs under one, stately the Integrated Reproductive Maternal & Neonatal Child Health and Nutrition Program (IRMNCH&NP). This program is under the direct control of DGHS office with the responsibilities to provide 24/7 emergency obstetric care and nutrition related services; and implement CMW and LHW related interventions.

The integration of vertical programmes is mentioned here as a governance reform targeting improvement in service delivery, through tying synergies across the four components and bringing in economies of scale, and would be discussed in detail in service delivery section of the report.

6.5. District Health Authorities

District Health Authorities in line with the spirit of Local Government was one step further to decentralise the existing healthcare system and ensure effective service delivery across Punjab. The EDO Health (EDOH) have been replaced with the Chief Executive Officers (CEOs).

Headed by a Board of Management, the authority is answerable to the CEO for its day to day operations, while it reports to the board for matters related to implementation of provincial guidelines, policies and standards; and the progress against predetermined performance indicators on monthly basis.

In addition to monitoring the health facilities in Punjab, the DHAs are responsible for other health related issues; e.g. construction of new hospitals, dispensaries, and health centres; additional departments in the hospitals, promotion of staff and budget approvals.

Each DHA comprised of members from the district administration, local bodies and doctors with vested powers to take action against those who do not perform their duties as per rules & regulations. Although, mandated with a fuller role in terms of administrative and financial powers, in actual it is found that the functionality with this change had not been implemented in true spirit.

There is a committee for monitoring of the Health Councils comprising of the Director Health Services of concerned Division, representative of Secretary P&SHC Department, representative of concerned Commissioner, representative of concerned Deputy Commissioner, concerned DMO, and the concerned CEO Health as Secretary of monitoring committee.

Now, the new Government of Punjab is planning to create Regional Health Authorities at divisional level which is in accordance with the decentralization requirements for better performance of the districts. This step is being lauded by all relevant stakeholders.

6.6. Health Councils

P&SHD has established 'health councils' in each district. Each district has a separate council for DHQ, THQ, RHC and BHU. The council includes members from the government department as well as local representation. Funds to the council are provided by the local philanthropist and provincial or district government. Accounts have been opened in private bank accounts. The main purpose of the councils is to efficiently carry out repairs and maintenance, bypassing the bureaucratic government approval channels.

Composition of Health Councils

- 15 members for DHQ Health Council including 2 MPAs and 2 Philanthropists
- 10 members for THQ Health Council including 1 MPA and 2 Philanthropists
- 5 Members for RHCs including 2 Philanthropists and 1 Retired Government Servant not below BS-17
- 5 Members for BHUs including 1 Head Master of nearing High School and Numberdar of respective village

Responsibilities of Health Councils

- Opening of Health Council Account of Commercial Bank with Chairman and Secretary to be Co-Signatories
- Sources of funds of Health Councils will be donation by local Philanthropists etc. grants received through provincial government/district government. In case of grant by Federal Government prior permission from Primary & Secondary Healthcare Department shall be mandatory
- The money transferred shall be spent judiciously setting excellent standards of integrity to uphold the trust of the government

Health Council budget allocation against different categories of health facilities for the financial year 2018-19 is as follows

Health Councils Budget Allocation 2018-19

Health Facilities	Total Allocation
DHQs	101,148,500
THQs	301,076,500
RHCs	174,561,000
BHUs	386,460,000
Total	**963,246,000**

6.7. Ongoing Projects of Primary & Secondary Healthcare Department

Primary Healthcare

Major primary healthcare interventions are as under:

i. 07 new BHUs are going to be constructed in Union Councils of District Rawalpindi, Jhang, Mandi Bahauddin, Sailkot and Bahawalpur etc.

ii. Strengthening of Existing BHUs in Phase-I

iii. 12 BHUs are going to be upgraded into RHC.

iv. 03 new RHCs will be establishment at District Faisalabad and Khanewal during ADP 2019-20. 97

v. 11 RHCs are going to be up-gradated during Financial Year 2019-20.

Secondary Healthcare

Maternal, Neonatal and Child Mortality rates are very important indicators to assess the socio-economic development, quality of life and health status of a community. Therefore, government is very keen to achieve SDGs related to MMR and IMR by focusing on mother and child health.

i. 4 Mother and Child Hospitals are going to be constructed at Mianwali, Layyah, Rajanpur and Multan.

ii. Revamping of all DHQ and THQ Hospitals in Punjab.

iii. 11 new THQ hospitals are going to be established.

iv. 12 THQ Hospitals will be up-gradated by providing missing facilities.

v. 2 DHQ Hospitals are going to be established at Multan and Mandi Bahaudin.

vi. 5 DHQ Hospitals are going to be up-gradated during financial year 2019- 20

Research and Development

Key initiatives in research and development are as under:

i. Restructuring and Re-modelling of DTL Rawalpindi and Faisalabad

ii. Remodeling of Existing Bio Medical Workshops in Lahore

iii. Introduction of Testing Facility of Biologicals, Alternative Medicine & Medical Devices at DTL Lahore

Special Initiatives

03 Schemes as special initiatives have been included in ADP 2019-20 which are as under:

i. Strengthening of District Health Authorities

ii. Prime Minister Health Initiative

iii. Conversion of Nursing Schools into Nursing Colleges in Punjab

6.7 Punjab Healthcare Commission (PHCC)

Regulation of public and private sector health facilities and services has remained a challenge in Pakistan and Punjab. This has been debated for a long time and more recently Punjab, Sindh and Khyber Pakhtunkhwa established the Healthcare Commissions to serve the purposes of regulation across the public and the private sector. The Healthcare Commission, funded through the health department, is an autonomous commission.

Establishment of a Punjab Healthcare Commission in 2011 was a landmark achievement of the Punjab Government, in subsequence to promulgation of the Public Healthcare Act 2010. The Public Healthcare Commission is established as an autonomous health regulatory authority, aiming to improve the quality, safety, and efficiency of healthcare service delivery for all public and private healthcare establishments.

The commission is responsible for enforcing Minimum Service Delivery Standards (MSDS) at all levels of healthcare system. All Healthcare establishments are required to implement MSDS by acquiring a license to deliver healthcare services in Punjab. PHCC is governed by a Board of Commissioners. The Board of Commissioners is constituted under the PHCC Act, 2010. The board is responsible for providing strategic guidance and leadership to the commission.

Punjab Healthcare Commission also has a Technical Advisory Committee (TAC), an advisory body, through which key stakeholders are engaged with the work of the commission to advise, facilitate and offer assistance on any matter referred to it by the commission. TAC also acts as an advocacy arm for the commission, engaging with stakeholders to promote and contribute towards development and sustainability of the work of the Commission.

The operations of the commission are distributed across 4 Directorates, each with a Director, and 5 Departments, which report directly to the Chief Operating Officer. The functions of these departments and directorates are given in Table 9.

TABLE 9: PHCC DIRECTORATES / DEPARTMENT WITH FUNCTIONS - SOURCE PHCC

DIRECTORATE / DEPARTMENT	FUNCTIONS
Clinical Governance and Organizational Standards	• Develops MSDS and Reference Manuals for all types of HCEs • Develops training material and tools to facilitate surveyors in the inspection of HCEs • Conducts capacity building workshops for HCE staff • Trains surveyors on inspecting HCEs

DIRECTORATE / DEPARTMENT	FUNCTIONS
Licensing and Accreditation	• Maintains a register of HCEs • Inspects HCEs to assess compliance with MSDS • Issues licenses to HCEs demonstrating required MSDS compliance • Suspends or revokes licenses upon - non compliance with standards or in case of evidence of malpractice, negligence or misrepresentation of facts
Complaints	• Investigates complaints of medical negligence and serious system failures in healthcare service provision in accordance with the demands of justice and accountability • Takes cognizance of harassment of healthcare service providers or damages to a HCE
Business Support	• Includes the HR, ICT and Administration units • Provides resources and logistical support to facilitate the functions of core Directorates
Finance	• Records and reports cash flow transactions • Implements Financial controls
Communications	• Conduct awareness activities for healthcare service providers and the general public • Promotes the Commission's regulatory activities
Monitoring & Evaluation	• Monitors adherence to operational plans and organizational policies • Ensures that the PHC remains on course to achieve its strategic objectives
Anti - Quackery Cell	• Coordinates the Commission's multifarious efforts against quackery • Deals with complaints involving quacks and decides on reports of quackery
Legal Cell	• Advises the Chief Operating Officer (COO) on legal matters pertaining to the Commission • Supports Directorates and Departments in all matters involving questions of a legal nature

Punjab Healthcare Commission delivers its regulatory function through registration, and then initial assessments of the Healthcare Establishments (HCEs), both public and the private sector. It then carries out the training of the HCEs staff on MSDS and after a lapse period provided for the trained HCEs to update, these HCEs are visited for assessing whether they have met with the standard requirements – after which the HCEs are issued licenses.

The continuum is then to quality assure these HCEs and take them to certification and accreditation. The current staff capacity of the Punjab Healthcare Commission is over 300 including technical and non-technical staff categories. More recently, the PHCC has opened regional offices in Multan, Sargodha, Bahawalpur and Rawalpindi. However, given these tasks, PHCC is short of the required human resource - further the quality assurance is new to the PHCC, a newly established wing is working with a Director and technical and non-technical staff. The need for quality assessors, development of clinical assessment tools, trainings on these clinical assessment tools, development of clinical protocols (or reviewing from the existent) and further support in areas of collaboration with the Health Insurance programme are essential gaps which the PHCC is considering and would need support.

However, the linkages with the development sector not for the profit sector are being established by the PHCC, especially WHO is collaborating with PHCC in the area of Quality Assurance. The provinces of Khyber Pakhtunkhwa and Sindh are also being hand held and there is a lot of learning from the experiences that these and other provinces can take up from the Punjab Healthcare Commission.

6.8. Punjab Health Initiative Management Company (PHIMC)

The Punjab Health Initiative Management Company was established under the Companies Act, 2017 after approval of the Chief Minister of Punjab. The main task of the PHIMC is to execute social health protection initiatives, demand side financing schemes including pro-poor health insurance schemes and collaboration with private sector to provide universal health coverage.

One of the key area of intervention is implementation of Prime Minister National Health Program (PMNHP) **[Sehat Sahulat Program]** in Punjab; the PHIMC is mandated by the Specialized Healthcare and Medical Education Department for execution /implementation of PMNHP-Sehat Sahulat Program on its behalf. The PMNHP Program's objective is to improve access of the poor population to good quality medical services, through a micro health insurance scheme. Population under approx. 32.5 of the Proxy Means Test (2 USD) in 4 districts of Punjab is being covered.

6.9 Punjab Health Foundation (PHF)

The Punjab Health Foundation (PHF) has been established as an autonomous body under Punjab Health Foundation Act, 1992 to promote and finance the development of the health sector in the Province of the Punjab and matters incidental and supplemental thereto. Section 10 of the Act mandates that the Foundation shall take all measures which it deems necessary for the promotion, development and financing of health services in the private sector. The Foundation is an autonomous body, governed by a Board of Directors. The Board is empowered to constitute such number of committees as it deems necessary for carrying forward the objectives of the PHF in any specific area and is currently supported by the finance and technical committees. The autonomy of the Foundation was primarily intended to encourage the concerned Health Professionals for establishing and upgrading health institutions and allied projects. This initiative was an encouraging step of the Government of Punjab towards proactively assisting and promoting the private sector in broadening the overall health coverage to the people of this province.

The PHF thus undertook providing financial assistance to individual doctors, health institutions and allied projects for ensuring quality health facilities at grass root level across the Province in a bid to shift the burden from government hospitals and to enhance access to the health facilities for the common man.

The functions of the Foundation are:

- Establish health institutions and allied projects
- Give grants to health Institutions operating on non-commercial basis for the purchase of land, construction of building, purchase of equipment, furniture and for other allied projects
- Given loans to health institutions
- Provide loans to doctors for opening clinics

- Assist health institutions and doctors in getting loans from scheduled banks and financial institutions
- Lease or sell plots or assist in getting plots and land from government, development authorities and housing agencies controlled by the government
- Assist the private sector for providing necessary facilities for population welfare program
- With the approval of the government raise loans and receive grants
- Perform such other functions as may be assigned to it by the government

6.10 Punjab Medical Faculty

Punjab Medical Faculty (PMF), established in 1916, is an autonomous body, which functions through an 11 members' Governing Body, to maximize the professional competence of allied health professionals by ensuring their quality education that is in line with the contemporary needs and latest scientific advancements.

The primary functions of PMF are designing curricula for diploma level education and conduction of examinations for such courses. It also affiliates institutions in government and private sectors which deal with education of allied health sciences and regulates their performance.

6.11. Strategic Management and Internal Policy Unit

This unit serves as the Policy Unit of SH&ME, to provide technical and management support to the Secretary SH&ME or informed decision making, project planning, designing, and scheduling the tasks in the SH&ME Department. The other objectives of this unit are as follows:

1) Monitoring and Evaluation of the Healthcare Professionals and filling gaps in HRH
2) Capacity building of clinical and non-clinical staff through trainings
3) Setting up database system for information management by replacing the conventional systems with IT systems.
4) Designing the infrastructure in accordance with building codes and peculiar medical requirements i.e. lay out plans, structural elevation etc.
5) Provide assistance in planning and procurement of standardized medical equipment keeping in view epidemiological needs as per PPRA rules
6) Provide project management services and monitoring of on-going development projects

6.12. Punjab Human Organ Transplantation Authority

The Punjab Human Organ Transplantation Authority (PHOTA) was established after adopting the Transplantation of Human Organs and Tissues Act, 2010 By Punjab in 2012. The Federal Act was adopted by the Punjab, Province, in 2012. A Monitoring Authority headed by Minister of Specialized Healthcare & Medical Education Department or any nominee of Chief Minister was formulated to look after its affairs.

Functions of the Authority:

- Monitor transplantation and enforce prescribed standards for recognized medical institutions and hospitals;
- Investigate and hold inquiry into the allegations / breach of any provision of this Act;

- Inspect recognized medical institutions and hospitals for examination of quality of transplantation, follow up medical care of donor and recipient and any other matter ancillary thereto and also periodically inspect institutions wishing to be recognized;
- Establishment of a National Registry and networks for evaluating quality and outcome of transplant centers and promotion of transplantation; and
- Explore and support the international collaboration of xenotransplantation in future, after considering all ethical and safety risks and also continue to examine and collect global data on the practices, safety, quality, efficacy and epidemiology of stem cell as well as non-human organ transplantation.

Future Plans:

- The Authority in on way to start cadaveric transplantation. All the SOP's and processes in this regard have been developed by PHOTA. Construction of Organ Procurement Cell for this purpose is underway and will soon start functioning at Lahore General Hospital.
- The Authority is starting a 14 months diploma (Managerial Course in Cadaveric Transplantations) with collaboration of UHS, Lahore to produce mid-level managers from medical graduates to work as hospital coordinators for cadaveric transplantation.
- The Authority plans to start research program in Xenotransplantation in collaboration with PKLI, Lahore.
- The Authority plans to MD/MS program in liver, kidney cardiac and pancreas transplantation in collaboration with UHS, Lahore.
- The Authority plans to teach and train support staff like nurses, technicians, paramedical staff etc. for assistance in living and cadaveric human organ transplantation.

6.13. Punjab Mental Health Authority

In order to improve the mental health, the Punjab Mental Health Authority was constituted on 8th April, 2019 in accordance with the Mental Health Ordinance 2001 under the Chairpersonship of the Minister for Health, Punjab. The main functions of Authority are:

- Advise the Government on all matters relating to promotion of mental health and prevention of mental disorder;
- Develop and establish new standards for care and treatment of patients;
- Recommend measures to improve existing mental health services and setting up of child/adolescence, psychogeriatric, forensic, learning disability and community based services;
- Prescribe procedures with respect to setting up and functioning of the mental health services and facilities;
- Prescribe a code of practice to be implemented for achieving the purposes and objects of this Ordinance as well as to be followed by all the mental health personnel involved with the care of patients under this Ordinance;
- Ensure implementation of the provisions of this Ordinance for assessment and treatment;
- Prescribe for care, aftercare or rehabilitation, under supervision or otherwise;

- Provide for and regulate the setting up of held lines and crises centers for the mental health of general public;
- Provide for, organize and regulate public awareness programs and promote research and publish IEC material on mental health issues;
- Discharge such other functions/matters relating to mental health as the Government may require;
- Register psychiatrists for the purposes of this Ordinance, in such manner as may be prescribed;
- Arrange and organize such courses and training programs, as may be necessary for carrying out the purposes and objects of this Ordinance.

The two meetings of Punjab Mental Health Authority have been conducted and the following decisions were taken in the meetings. A Task Force was formulated to review the followings:

- Rules and Regulations for Establishment of Psychiatric Facilities in Punjab.
- Registration for Approved Psychiatrist.
- Review of Members of Board of Certification.

The two meetings of Task Force have been conducted in this regard. Modern Addiction Treatment Centre has recently been established in Punjab Institute of Mental Health Lahore, to cater the treatment of drug addicts.

6.14. Punjab Thalassemia Prevention Program (PTPP)

B- Thalassemia is the most common genetic disorder in Pakistan with a gene prevalence rate of around 6%. This translates that 6 out of every 100 Pakistanis carry this mutant gene. With a population of about 200 million, around 12 million people are healthy carriers of this gene. Thalassemia is an autosomal recessive disease, which means that if two carriers get married to each other then they will have a 1 in 4 (25%) chance of having an offspring with B-Thalassemia Major in every pregnancy. Over 6000 affected children are born annually meaning 17 affected children are born each day in Pakistan. These children require regular monthly blood transfusions and chelation therapy to remove the excess iron from their bodies in order to just stay alive. An estimated Rs. 300,000 is required for each child per annum. Currently, majority of the patients in Pakistan do not get adequate treatment, especially the transfusion of safe blood has been a big problem and the majority of the Thalassemia patients are positive for infections such as Hepatitis B ,C and HIV.

Since there is no easily available cure for this disorder, the only hope lies in adopting a preventive program on the line pursued by countries like Italy,Cyprus and Iran, which has resulted in either complete control or significant reduction in the births of new Thalassemia Major children in these countries.

Considering the gravity of the issue, the Government of Punjab took the lead and initiated Punjab Thalassemia Prevention Programme (PTPP) in 2009-2010, which is unique and can be compared with any other preventive program of the world. The phase 1 of this project ended in 2017 while phase 2 has started in 2018 and is providing services totally free of cost in all the 36 districts of Punjab. The project head office is in Lahore with six regional centers situated at Sir Ganga Ram Hospital, Lahore (head office), Nishtar

Hospital Multan, Victoria Hospital Bahawalpur, Holy Family Hospital, Rawalpindi , General Hospital, Ghulam Muhammadabad, Faisalabad and Teaching Hospital, DG Khan. Three new regional centers and labs shall also established at Sargodha, Sahiwal and Gujranwala in the year 2019-20, thus making a total of nine regional centers and labs. Each of the regional centers are providing the following services:

- Genetic Counselling
- Blood collection
- Carrier Testing
- Prenatal Diagnosis
- Result Feedback
- Awareness

Moreover, PTPP has also established first public sector DNA Lab at Sir Ganga Ram Hospital, Lahore, which is providing free genetic testing and prenatal diagnosis services for Thalassemia in the country.

All 36 District of Punjab are attached to respective regional centers and are proving the above mentioned services. The project has a community outreach component and in each district there is a mobile field team of PTPP (Field Officers), which provide targeted Thalassemia screening (extended families of Thalassemia children) as well as premarital Thalassemia screening services to general population at their doorsteps.

Punjab Thalassemia Prevention Authority

The Government has announced the establishment of Punjab Thalassemia Prevention Authority along with the mandatory premarital Thalassemia screening law. This Act is currently been prepared and will be finalized by the Specialized Healthcare & Medical Education Department Punjab.

6.15. Punjab Pharmacy Council

Punjab Pharmacy Council is an autonomous pharmacy practice regulatory provincial body established under Pharmacy Act 1967. This council is headed by Secretary Health Department and composed of 5 members nominated by the government and one person to be nominated by Pharmacist Association Punjab.

Functions of Punjab Pharmacy Council as provided under Pharmacy Act 1967

- To prepare and maintain registers of pharmacists and apprentice in pharmacy
- To register pharmacists and grant certificates of registration.
- To conduct examinations for the purpose of registration as pharmacists.
- To do such other acts and things as empowered by the Act.

The councils are also empowered to

- Conduct Pre-renewal/Professional Training Program for Pharmacists
- Renew Registrations of Pharmacists/Assistant Pharmacists
- Verify Registration Certificates.

- Issue Good Standing Certificates.
- Issue duplicate Certificate of registration
- Publish Text Book of Pharmacy for Assistant Pharmacists

Committees of Punjab Pharmacy Council

The Council has constituted following committees for its working as per Pharmacy Act 1967

- Human Resource Committee
- Budget Control and Service Rule Committee
- Examination Committee
- Education Committee
- Law, Ethics & Disciplinary Committee

Committees are working as per TOR's and Pharmacy Act 1967, the Statistics are given below:

✓	No. of Registered Graduate Pharmacists in Category A	=	21,200
✓	No. of Registered Pharmacy Assistant in Category B	=	16,960
✓	No. of Pharmacy Assistant Examinations held	=	36
✓	No. of Pharmacy Technician Examinations held	=	19

6.16. Institute of Public Health (IPH)

The Institute of Hygiene and Preventive Medicine established in 1949, renamed as the Institute of Public Health is playing pivotal role in strengthening the public health management & planning capacity through teaching, research and technical advice.

Objectives

- To produce well trained and qualified public health professionals, health managers and hospital administrators.
- To conduct and promote scientifically and ethically sound high quality public health research for decision making at policy, planning and implementation level.
- To acquire and disseminate knowledge regarding health systems development, management, control of communicable and non-communicable diseases through training and capacity building

Current Initiatives

- Establishment of public health Laboratory in Punjab for diseases surveillance
- Up gradation of water testing Laboratory with all physical, chemical and biological parameters for testing in public and private sector
- Signing of MoU with National and International Bodies for student and faculty exchange programs, external faculty sharing and collaborative research
- Expansion of teaching courses and initiation of short courses along with courses for paramedics to enhance number of enrolled students

6.16. Ongoing Projects of SH&ME

TABLE 10: ON GOING PROJECTS OF SH&ME DEPARTMENT

S. No	Projects	Completion Time (subject to provision of funds)
1	Pakistan Kidney and Liver Institute & Research Center, Lahore (476 beds)	Before June 2020
2	Institute of Urology and Transplantation Rawalpindi	June 2020
3	Establishment of Medical College at Bahawalnagar	June 2022
4	Provision of Missing Specialties for Up-gradation of DHQ Hospital Dera Ghazi Khan into Teaching Hospital, Dera Ghazi Khan	June 2020
5	Provision of Missing Specialties for Up gradation of DHQ Hospital to Teaching Hospital, Sahiwal	June 2022
6	Construction of Teaching Hospital / Provision of Missing Specialties for Up Gradation of DHQ Hospital to Teaching Hospital Gujranwala.	June 2021
7	Provision of Missing Specialties for Up gradation of DHQ Hospital to Teaching Hospital, Sialkot (Part-II) (REVISION UNAPPROVED)	June 2020
8	Up-gradation of Radiology & Specialties Dept. in Services Hospital, Lahore	June 2020

Since existing bed strength of teaching hospitals of SH&ME is less than the patient load they are dealing with, therefore, the department has also endorsed the proposal of construction of "Jinnah Medical Tower" in Jinnah Hospital Lahore, MCH Block at Sir Ganga Ram Hospital (SGRH) Tertiary care Hospital Nishtar-II Multan, Dera Ghazi Khan Institute of Cardiology, Teaching Hospital (Sheikh Zayed-II at Rahim Yar Khan, Up gradation of Dera Ghazi Khan Teaching Hospital, Up gradation of RIC into Rawalpindi Cardiac and Vascular Institute etc.

7. Healthcare Financing

7.1 National Health Expenditure

The annual per capita health expenditure for 2015-16 is Rs. 4,688 (US$ 45.0) compared with Rs. 4,067 (US$ 39.5) for 2013-14. For comparison, the respective figures for 2013-14 reported to WHO by Sri Lanka, India and Bangladesh are US$ 127.0, US$ 75.0 and US$ 31.0, respectively.

Household funds mainly comprise of Out of Pocket (OOP) health expenditures, Bait-ul-Mal and Zakat contributions made by households (*zakat contains all bank accounts whether owned by private households or some employers, but due to non-availability of disaggregated data it is counted under household funds*).

Development partners are also spending on health; however, only their direct spending is included in NHA. The money, which has been granted to the government (budgetary aid) and thus reflected in budget is shown under government spending. Out of total health expenditures in Pakistan, 34% of health spending is funded by public sector.

Table 11 below, depicts the expenditures incurred by the Financing Sources (*Financing Sources are institutions or entities that provide the funds used in the system by Financing Agents. In Pakistan, the Financing Sources would typically include the Federal Government, Provincial Governments, donors, NGOs, insurance companies, and households*). Out of total public sector health expenditures federal government is funding 21.8%, provincial government is funding 60.8% and district government/ local bodies are funding 12.6%. Out of total federal government spending, 58% are for civil part of the government and the rest 42% is disbursed via military setup. 64.4% of the health expenditures funded through private sector, 89% is OOP health expenditures by households (Table 11).

TABLE 11: TOTAL HEALTH EXPENDITURES NATIONAL HEALTH ACCOUNTS 2013-14 AND 2015-16 BY FINANCING SOURCES (MILLION RS.)

Source	2011-12		2013-14		2015-16	
	Total	% share	Total	% share	Total	% share
Public Funds	**198,736**	**35.84**	**243,079**	**32.10**	**307,850**	**33.9**
Government Funds	189,393	34.16	231,526	30.58	293,563	32.3
Federal Government	41,653	7.51	56,841	7.51	67,062	7.4
Ministry of Finance	41,653	7.51	56,841	7.51	67,062	7.4
Provincial Government	105,515	19.03	144,036	19.02	187,096	20.6
Punjab Finance Dept.	38,673	6.97	55,408	7.32	83,827	9.2
Sindh Finance Dept.	40,786	7.36	49,396	6.52	63,188	7.0
KP Finance Dept.*	16,219	2.93	25,253	3.34	23,265	2.6
Baluchistan Finance Dept.	9,837	1.77	13,979	1.85	16,816	1.9
District/ Tehsil Bodies	42,225	7.62	30,649	4.05	39,405	4.3
District Government	41,777	7.53	29,944	3.95	38,668	4.3
Cantonment Boards	448	0.08	705	0.09	737	0.1
Autonomous Bodies/Corporations	9,343	1.69	11,553	1.53	14,287	1.6
Federal Govt.	8,614	1.55	10,677	1.41	13,235	1.5
Provincial Govt.	729	0.13	876	0.12	1,052	0.1
Private Funds	**346,152**	**62.43**	**508,116**	**67.10**	**584,444**	**64.4**
Employer Funds	7,734	1.39	10,327	1.36	15,369	1.7
Household Funds	304,944	55.00	457,285	60.39	524,804	57.8
Local/National NGO''s	33,474	6.04	40,504	5.35	44,271	4.9
Rest of the World Funds	**9,565**	**1.73**	**6,001**	**0.80**	**15,210**	**1.7**
Official Donor Agencies	9,565	1.73	6,001	0.80	15,210	1.7
Total Health Expenditures	**554,453**	**100.00**	**757,196**	**100.00**	**907,504**	**100.0**

Table 12 below, depicts the expenditures incurred by the Financing Agents (*Financing Agents include institutions or entities that channel the funds provided by Financing Sources and use those funds to pay for, or purchase, the activities inside the health accounts boundary. In Pakistan, these include the Ministry of Health (It can be replaced with Ministry of Interprovincial Coordination, Ministry of Defense, Autonomous Bodies, NGOs, and Households etc.*). National Health Accounts for the FY 2015-16 for financing agents shows that out of total health expenditures in Pakistan, 35% is made by general government agents which include the social security, Zakat, Bait ul Mal and Autonomous Bodies/ Corporations health expenditures as well. The private expenditures constitute 63.4% of the total health expenditures in Pakistan, out of which 57% are households "OOP" health expenditures. The share of development partners/donors organizations in total health expenditures is almost 1.7% (Table 12).

TABLE 12: TOTAL HEALTH EXPENDITURES FY 2011-12, 2013-14 & 2015-16 BY FINANCING AGENTS (MILLION RS.)
SOURCE: NHA 2015-16

Agents by Health Function	2011-12		2013-14		2015-16	
Classification	**Total**	**% share**	**Total**	**% share**	**Total**	**% share**
General Government	**204,618**	**36.90**	**250,853**	**33.13**	**317,388**	**34.9**
Territorial* **	**189,393**	**34.16**	**231,526**	**30.58**	**293,563**	**32.3**
Federal	41,653	7.51	56,841	7.51	67,062	7.4
Federal (Civil)	25,138	4.53	35,781	4.73	38,888	4.3
MoNHSR&C	2,269	0.41	17,818	2.35	25,000	2.8
Other*	21,943	3.96	10,849	1.43	13,684	1.5
Mo Population Welfare	926	0.17	7,114	0.94	204	0.02
Military	16,515	2.98	21,060	2.78	28,174	3.1
Provincial	**105,515**	**19.03**	**144,036**	**19.02**	**187,096**	**20.6**
Punjab	38,673	7.00	55,408	7.32	83,827	9.24
Dept. of Health	36,043	6.50	51,886	6.85	83,626	9.22
Other*	345	0.06	292	0.04	201	0.02
Dept. of Population Welfare	2,285	0.41	3,230	0.43	-	-
Sindh	40,786	7.36	49,396	6.52	63,188	7.0
Dept. of Health	25,855	4.66	46,199	6.10	61,965	6.8
Other	12,113	2.18	3,197	0.42	1,164	0.1
Dept. of Population Welfare	2,818	0.51	0	0.00	59	0.01
Khyber Pakhtunkhwa**	16,219	2.93	25,253	3.34	23,265	2.6
Dept. of Health	11,632	2.10	22,142	2.92	23,035	2.5
Other*	4,068	0.73	2,035	0.27	210	0.02
Dept. of Population Welfare	519	0.09	1,076	0.14	20	0.00
Baluchistan	9,837	1.77	13,979	1.85	16,816	1.85
Dept. of Health	9,547	1.72	13,768	1.82	15,948	1.76
Other*	256	0.05	175	0.02	183	0.02
Dept. of Population Welfare	34	0.01	36	0.00	685	0.08

Agents by Health Function	2011-12		2013-14		2015-16	
District/Tehsil	**42,225**	**7.62**	**30,649**	**4.05**	**39,405**	**4.34**
District Government	41,777	7.53	29,944	3.95	38,668	4.26
Cantonments Boards	448	0.08	705	0.09	737	0.08
Social Security Funds	**5,882**	**1.06**	**7,774**	**1.03**	**9,538**	**1.1**
Social Security Funds through	5,882	1.06	7,774	1.03	9,538	1.1
ESSI	4,559	0.82	6,249	0.83	7,305	0.8
Zakat Council	613	0.11	752	0.10	766	0.1
Bait ul Mal	710	0.13	773	0.10	1,467	0.2
Autonomous	**9,343**	1.69	**11,553**	**1.53**	**14,287**	**1.6**
Federal	8,614	1.55	10,677	1.41	13,235	1.5
Provincial	729	0.13	876	0.12	1,052	0.1
Private Sector	**340,270**	**61.37**	**500,342**	**66.08**	**574,906**	**63.4**
Private Health Insurance	3,175	0.57	4,078	0.54	8,064	0.9
PHOOP Payment	303,621	54.76	455,760	60.19	522,571	57.6
Local/National (NGO's)	33,474	6.04	40,504	5.35	44,271	4.9
Rest of the World	**9,565**	**1.73**	**6,001**	**0.79**	**15,210**	**1.7**
Official Donor	**9,565**	**1.73**	**6,001**	**0.79**	**15,210**	**1.7**
Total Health Expenditures	**554,453**	**100.00**	**757,196**	**100.00**	**907,504**	**100.00**

* *Lump sum reimbursements of the federal, provincial/district governments" agencies have been included in the respective health expenditures of financing agent defined as "Other";*

** *Khyber Pakhtunkhwa includes the health expenditures of FATA;*

*** *Territorial is the total of Federal Government (excluding military expenditures) and the provincial as well as the district governments*

Given the analysis in the lines above, and being considerate of the fact that the private health sector accounts for almost 63.4% of the total private expenditures and with 57.6% out of pocket expenses (almost 90% of the overall 63.4% of the Private Sector Expenses), it is imperative for the government to reconsider its policy perspectives and reorganize the health sector by encompassing the private sector within the ambit of the overall healthcare delivery structure.

The key message is that most health expenditure is private -mainly out of pocket and spent in the private sector and support to the health sector must focus on getting better value for this expenditure, protecting the poor from catastrophic Out of Pocket (OOP) expenditure as well as improving the efficiency and effectiveness of the public sector[27].

[27] DFID Punjab Health Sector Assessment 2018

7.2 Out of Pocket Expenditures (OOP)

The health expenditures incurred by private households [28] (insurance funds) in the fiscal year 2015-16 are amounting to Rs. 542 billion. Punjab has the highest share (54%) followed by Sindh (24%) and KP (16%, including FATA) while Balochistan has just 5% share of Pakistan's OOP health spending. Net OOP health expenditures for the year 2015-16 after deducting the third-party payments, such as insurance or reimbursements are estimated at Rs.523 billion. OOP health expenditures do not include AJK (Table 13).

TABLE 13: OUT OF POCKET HEALTH EXPENDITURES - NATIONAL HEALTH ACCOUNTS 2015-16

Financing Source / Province	Punjab	Sindh	KP*	Balochistan	ICT**	Un-Regionalized	Pakistan
Gross OOP Health Expenditures	293,496	130,218	86,233	28,156	4,174	-	542,277
Percentage Share	54	24	16	5	1		100
Reimbursement by Federal Government	529	146	311	53	-	-	1039
Reimbursement by Provincial Government	201	166	189	86	-	-	642
Reimbursement by fed. Autonomous Bodies	5,044	2,162	1,351	451	-	-	9,008
Reimbursement by Prov. Autonomous Bodies	167	603	121	31	-	-	922
Reimbursement by other Government Entities	1,966	26	11	3	4	-	2,010
Reimbursement by Private Health Insurance	-	-	-	-	-	5,993	5,993
Reimbursement by Social Security Institutions	36	37	18	1	-	-	92
Total Reimbursement etc.	7,943	3,140	2,001	625	4	5,993	19,706
Net OOP Health Expenditures	**285,553**	**127,078**	**84,232**	**27,531**	**4,170**	**-5,993**	**522,571**

It can be observed from Figure 7 that out of the Gross OOP Expenses for Pakistan, only 3.633% is covered through reimbursements, the rest of the 96.36% are borne directly through OOP expenses (Figure 7).

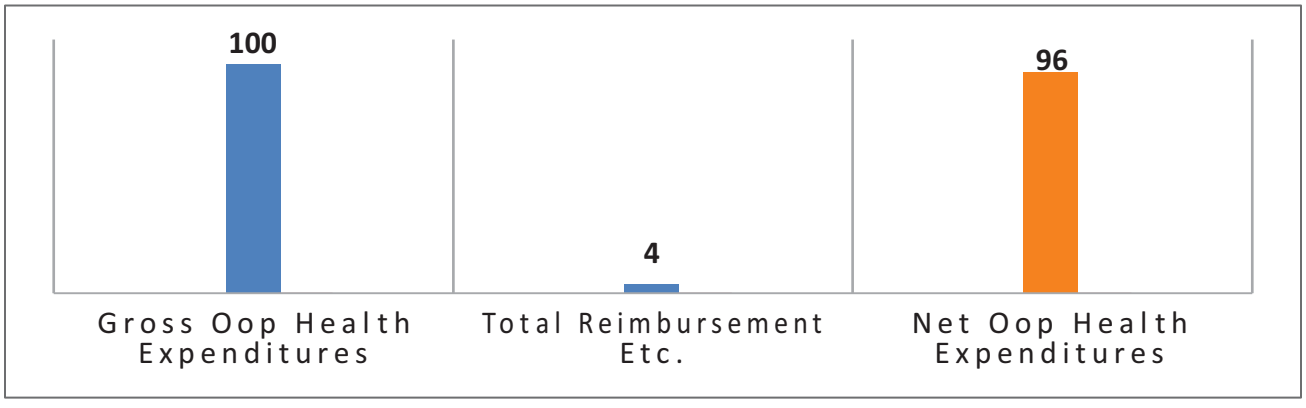


FIGURE 7: OUT OF POCKET HEALTH EXPENDITURES NATIONAL HEALTH ACCOUNTS 2015-16

[28] Households OOP payments are defined as direct payments for health services from the households‟ income or saving. However, the direct payment might be reimbursed by employers or by health insurance. Therefore, it depends on the exact definition. The households‟ OOP payments in our case are treated as a financial “scheme”, just like insurances, as there are in-going and out-going in their financial relationship with providers, employers and insurances.

7.3 Punjab Health Expenditures:

In Punjab, the current expenditures made by provincial government in its capacity as financial agent are (13.58%). The share of social security is 1.04%. The Out of Pocket (OOP) expenditures of private households as agents account for 68.28% of overall health expenditures made in Punjab. The OOP Health Expenditures incurred by private households in of Pakistan for the fiscal year 2015-16 are amounting to Rs. 542 billion. Punjab has the highest share (54%). Net OOP health expenditures in Punjab for the year 2015-16 after deducting the third-party payments, such as insurance or reimbursements are estimated at Rs.523 billion.

Households are the major financers of healthcare in Punjab and most payments are through out of pocket (OOP) with a very small proportion going to health insurance. OOP expenditure is spent on medicines, private consultations, diagnostics, and travel. It must be noted that even patients utilizing 'free' public sector facilities expend out of pocket on diagnostics and medicines that are not available at the public-sector facility.

With the increase of public funding, there has been a decrease in OOP payments in Punjab. If we compare 2005-06 with 2015-16, OOP has reduced by 11% whereas the public funding has increased by 9%; the remaining 2% reduction in OOP is due to donors and nongovernmental organizations.

Although richer households spend far more on medical treatment than poor ones, the burden of OOP expenditure is much greater for poor households than rich ones. Healthcare spending as a share of household consumption is higher in poorer households, and as a share of non-food consumption is even greater. The poorest quintile devotes 7% of their non-food expenditures to medical treatment, versus 5% in the richest quintile 2[29]. In Punjab it is estimated that the weighted average OOP expenditure for a normal delivery is PKR 4,992 for the lowest quintile, which is 23% of average monthly income with a maximum cost estimated to be PKR 20,000.

7.4 Punjab - Out of Pocket Expenditures

The OOP health expenditures for 2011-12, 2013-14 & 2015-16 including reimbursement figures, estimated at national level by OOP survey are Rs.315 billion, Rs.470 billion & Rs.542 billion respectively. The Table 14, below gives the breakup of the gross OOP by region/province. Punjab has the highest share (54%) of the total OOP health spending .

TABLE 14: OUT OF POCKET HEALTH EXPENDITURES IN 2011-12 TO 2015-16 BY REGION (MILLION RS.) – NHA 2015-16

Province/Area	2011-12	2013-14	2015-16
Pakistan	**314,833**	**470,092**	**542,277**
Punjab	171,355	255,252	293,496

[29] DFID Punjab Health Assessment for PHNP 2018

Table 15; Analysis of the OOP health expenditure from NHA 2015-16 data, reveals that in Punjab, around 22.86% of the total OOP expenditure are incurred on in-patient services while OOP spending as outpatient care for their illness is 30.67%. About 46.47% are spent on Medical Products, equipment & appliances (Table 15).

TABLE 15: OUT OF POCKET HEALTH EXPENDITURE BY TYPE OF HEALTHCARE 2015-16 IN % - NHA 2015-16

Province	Inpatient (%)	Outpatient (%)	Medical Products (%)	Total (%)
Pakistan	**24.10**	**28.58**	**47.32**	**100**
Punjab	22.86	30.67	46.47	100

Table 16 shows, trends of households OOP health expenditure in urban and rural areas. The level of OOP health expenditure in urban areas is much higher as compared to rural areas in Pakistan and provinces. Urban percentage share of OOP health expenditures in Punjab is 69.44% while rural areas is 30.56%.

TABLE 16: OUT OF POCKET HEALTH EXPENDITURE BY URBAN & RURAL - NHA 2015-16

Province	Urban	Rural	Total
Pakistan	**68.07**	**31.93**	**100.0**
Punjab	69.44	30.56	100.0

7.5 Development Partners/Donors

The NHA report for the year 2015-16 covers the donors' expenditures/disbursements in Pakistan. Major portions of the support are funded for MNCH and Family Planning, with diminutive assistance for improving the overall health systems. More recently however, donors have started funding with a health systems approach and have realized the importance of capturing the private sector (again these supports are centered more to MNCH and FP). Table 17 shows the biggest share has been spent at Punjab (Table 17).

TABLE 17: DONOR HEALTH EXPENDITURES NHA 2015-16 (MILLION RS.)

Sector	Punjab
Administration-Health and Nutrition	0.06
Medical Services	-
Child Health	656
Infection Disease Cotrol	211
Maternal Health	104
Other-Health and Nutrition	125
Primary Health	3
Family Planning	1,453
HIV & AIDS (US)	-
Total	**2,552.06**

7.6 Local Non-Government Organizations

Philanthropic/Non-Government Organizations (NGOs) are working in both urban and rural areas of Pakistan. These organizations are working in multiple sectors to uplift the community by providing awareness and basic amenities of life. Philanthropic organizations are registered under different laws whereas very few are unregistered. Philanthropic sector is different from 'state' as it collects donations, charity or alms from the community and uses it for deserving communities, voluntarily. Year wise Health expenditures by NGOs in Pakistan is shown in Table 18 below (*National Health Accounts 2015-16 – although these were estimates, since the expenditures were not provided to the NHA Study Team*). It can be observed that the expenditures of the NGOs in Punjab have almost doubled over the span of few years from Rs. 6,265 Million in 2009-10 to Rs. 10,000 Million in 2015-16, showing substantial growth of the NGO sector in Punjab; which directly or indirectly calls for regulating the sector and exploring opportunities of engagement with sector for obtaining universal health coverage.

TABLE 18: HEALTH EXPENDITURES OF HEALTH RELATED NGOS 2015-16 (MILLION RS.) – NHA 2015-16

Province	Health Expenditures 2009-10	Health Expenditures 2011-12	Health Expenditures 2013-14	Health Expenditures 2015-16
				Million Rs.
Punjab	6,265	7,561	9,149	10,000

Table 19 below; with regard to healthcare providers the category 'Out-Patient Service Provider' (OPD Clinics) has the highest share in expenditure (67.55%) followed by 'Hospitals' (24.9%) and 'Laboratory & Diagnostic Service Providers' (7.65%) at national level. The NHA 2015-16 [30].

TABLE 19: EXPENDITURES OF PRIVATE HEALTHCARE PROVIDERS 2015-16 - SOURCE NHA 2015-16

Description	Hospitals	%	Out-Patient Service Providers Million Rs.	%	Laboratory & Diagnostic Service Providers	%	Total	%
Punjab	23,449	24.80	63,858	67.55	7,228	7.65	94,535	100

Table 20, shows the estimated expenditure and percentages of private hospitals by the kind of its ownership respectively. The expenditure incurred by “Private limited company” is (33.64%), “individual proprietorship” is (34%). The expenditure of hospitals run by “Trusts” was 20.58%. The percentage of “Partnerships” and “NGO/NPO” is 3.94% and 5.56% respectively [31].

TABLE 20: EXPENDITURES OF PRIVATE HOSPITALS BY KIND OF OWNERSHIP NHA 2015-16

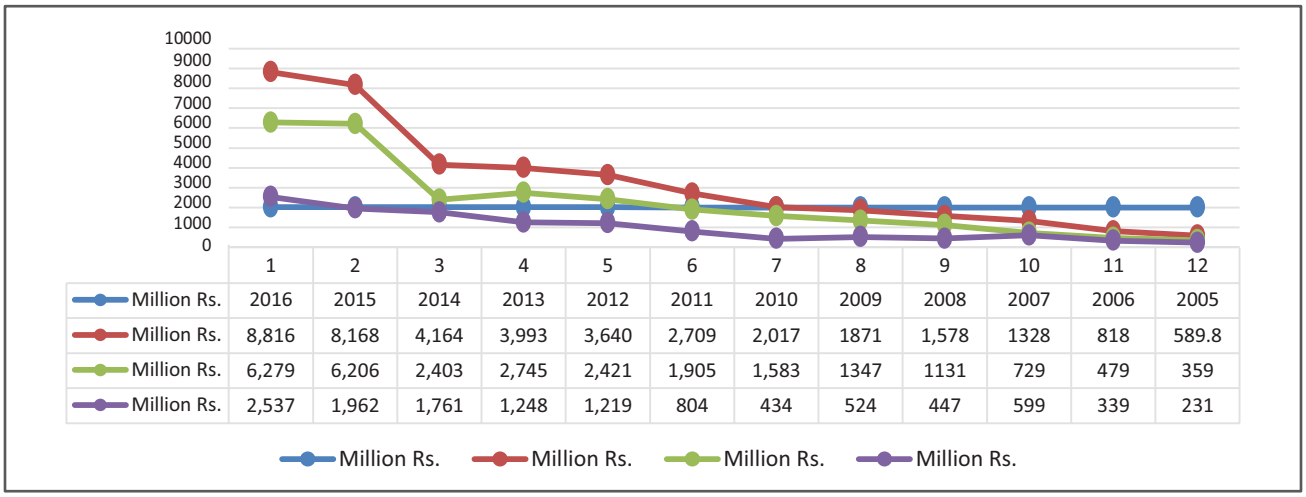
PUNJAB	NUMBER	PERCENTAGE
NGO/NPO	1,304	5.56
Individual Proprietorship	8,204	34.99
Private Limited Company	7,888	33.64
Partnership	924	3.94
Trust	4,826	20.58
Other	303	1.29
Total	**23,449**	**100**

[30] [31] National Health Accounts 2015-16 – Bureau of Statistics

7.7 Private Health Insurance

In 2015-16 there were 38 insurance companies in Pakistan offering group health insurance or individual health insurance. The insurance companies are funded by premiums of their clients. They are not a financing source but are agents as well as providers of (administrative) health services. Since the Securities and Exchange Commission of Pakistan (SECP) is the formal regulator of the insurance industry under the Insurance Ordinance 2000, the data on private health insurance has been taken from SECP.

The premium written minus the incurred claims are taken as the remuneration of the administrative efforts of the companies to be recorded in the provider figures. Figure 8; the premium show persuasive increases overtime, showing trending health insurance concept in Pakistan, previously not linked and neither thought to be religiously correct (Figure 8).



	1	2	3	4	5	6	7	8	9	10	11	12
Million Rs.	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Million Rs.	8,816	8,168	4,164	3,993	3,640	2,709	2,017	1871	1,578	1328	818	589.8
Million Rs.	6,279	6,206	2,403	2,745	2,421	1,905	1,583	1347	1131	729	479	359
Million Rs.	2,537	1,962	1,761	1,248	1,219	804	434	524	447	599	339	231

FIGURE 8: TRENDS OF PRIVATE HEALTH INSURANCE 2005-06 TO 2015-16 (NHA 2015-16)

7.8 Public Sector Health Insurance Programs

Currently the Public Sector has two Health Insurance Programs, which were introduced within the last 3-4 years. The Prime Minister's National Health Program is a fully subsidized Health Insurance Program aimed to provide health insurance to the identified under-privileged citizens across the country to get access to their entitled medical healthcare without any financial obligations. The Prime Minister's National Health Program's (PMNHP) objective is to improve access of the poor population to good quality medical services, through a micro health insurance scheme. The program has enrolled 3,227,113 users till date. The program has empaneled a substantial number of secondary and tertiary hospitals for providing services to the enrolled users.

The Secondary Healthcare Hospitals are providing in-patient services (All Medical and Surgical Procedures), emergency treatment requiring admission, maternity consultancy/antenatal checkup (up to 4 times before and once after delivery) maternity services (Normal Delivery / C – Section), fractures / injuries, post hospitalization, local transportation cost of PKR 350 (thrice per year), provision of transport to tertiary care hospitals. The priority of teaching hospitals is providing in-patient services (All Medical and Surgical Procedures), Heart diseases (Angioplasty/bypass), Diabetes Mellitus, Burns and RTA (Life, Limb Saving Treatment, implants, Prosthesis), End stage kidney diseases/ dialysis, Chronic infections (Hepatitis/HIV), Organ Failure (Liver, Kidney, Heart, Lungs), Cancer (Chemo, Radio, Surgery).

Prime Minister's National Health Insurance Program in Punjab (PMNHP): The Punjab Health Initiative Management Company (PHIMC) was established under Section 42 of the Companies Act, 1984 in 2015 to execute pro-poor health insurance schemes on behalf of the Punjab Health Department. Rapid expansion was done just before the elections in 2018, but in many districts the empaneled hospitals still do not exist. There is a lack of link with the primary care system. Empaneled hospitals list is attached as Annexure-E.

Sehat Sahulat Card: The PTI Government has initiated the distribution of Sehat Sahulat Cards to 30 million people and 3.7 million families in Punjab (20 districts). During the initial phase, the government shall distribute the cards among the 50 percent population of the province. 0.816 million cards have been distributed in four districts (DG Khan, Muzaffargarh, Rajanpur & Multan) and 44 thousand cards have been distributed in 3 districts (Rawalpindi, Nankana & Attock). Rs. 1932 million have been expensed for these 7 districts. The government will complete the distribution of cards across the province by the end of December 2019. By that time, 6.9 million 'Sehat Sahulat Cards' will be provided that will cover 32.5 million individuals of the Punjab[32].

- Benefit package - PKR 720,000/- per beneficiary family per year
- Programme is being launched in 23 districts
- With total launch in all 36 districts - Approximately 7 million families consisting of 32 million individuals in Punjab will be given Sehat Insaf card.
- Coverage for approx. 30% of the of Punjab

Beneficiary Criteria

- National Socio-Economic Registry (NSER) data is utilized for this program
- Poverty score used– 32.5 PMT (Income $2 per day or less)
- NADRA validates data for transparency purpose

Social Insurance and Employee's Social Security Institutions (ESSI): In Pakistan, a social insurance system has existed since 1967. It is very limited in scope and area, covering not more than 5% of the total population. In FY 2015-16 as per the NHA, the contribution of ESSI in total health expenditure was only 1%. There are other social security schemes as well in Punjab (e.g. Bait-ul-Mal, Zakat, Workers Welfare funds, Employee Old Age Benefit etc.) other than ESSI Again, their coverage is minimal. No attempt has been made to expand the pool and bring in private employers within the ESSI. Private employers are not being regulated to provide health coverage to employees.

Conditional Cash Transfers (CCTs): Punjab Social Protection Authority has introduced CCTs in two districts of Punjab, Bahawalpur and Muzaffargarh for Antenatal Care (ANC) and Postnatal Care (PNC). This program may expand soon with the help of new project of World Bank in the name of Punjab Human Capital Investment Indices.

[32] PHIMC

8. Private Sector

The Pakistani private health sector is believed to provide services to nearly 70% of the population[33]. The private sector at the primary level includes general practitioners ranging from individual allopathic doctors, indigenous providers such as Hakeem's 3%, Homeopathy 1% [34] and Ayurveda clinics to maternity homes and traditional birth attendants (TBAs). The spread at the secondary level includes the maternity homes, group owned clinics and small hospitals, while at the tertiary level, this includes big hospitals with attached medical colleges. In addition to these, three main providers of exclusive primary healthcare and partial secondary to tertiary healthcare services in the country are the semi government and corporate sector healthcare units serving the employees of the respective groups; the armed forces of Pakistan are also delivering primary and secondary healthcare services in the remotest parts of Pakistan – these units serve the civilians sections of the population on fee for service models, while providing free of cost services to the armed forces; and the Employees Social Security network of facilities.

In addition, the non-state and the philanthropic sector has immense contribution to the landscape of healthcare service delivery in Pakistan. According to Pakistan Social and Living Standards Measurement (PSLM) Survey, 70.28 % of Pakistani households consult private sector health consultants for their health related problems. The population's interest in consulting the private health sector (Figure 9) has many reasons – the mere absence of quality within the public sector facilities, the absenteeism of staff, the irregular supplies of medicines, and the early closure of the outpatient facilities in these hospitals are amongst many reasons that drives patients (healthcare seekers) to the private health facilities.

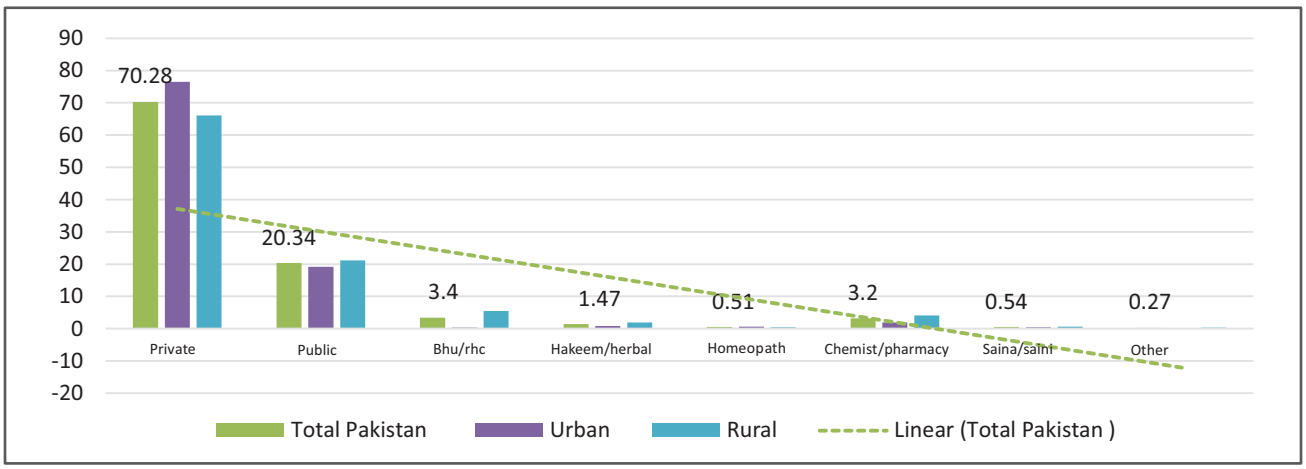


FIGURE 9: PERCENT DISTRIBUTION OF HEALTH CONSULTATIONS IN PAST 2 WEEKS BY TYPE OF HEALTH PROVIDER CONSULTED – PSLM 2014-15

The private health sector in Pakistan has not been mapped out so far, neither is there any available literature of authenticity that can be sourced for the number of health facilities in the private sector. More recently (last three years), Punjab has established the Healthcare Commissions with the mandate of registering the public and private health establishments.

The Punjab Healthcare Commission (PHCC) has been able to register and license substantial number of Private Health Sector Establishments (PHSE). The health facilities registered and licensed in Punjab by the PHCC till December 2016 are given Figure 10. The figure includes public and private sector together, a disaggregated data is not available.

[33] Pakistan Social & Living Standards Measurement Survey 2014-15

[34] Pakistan Social & Living Standards Measurement Survey 2013-14

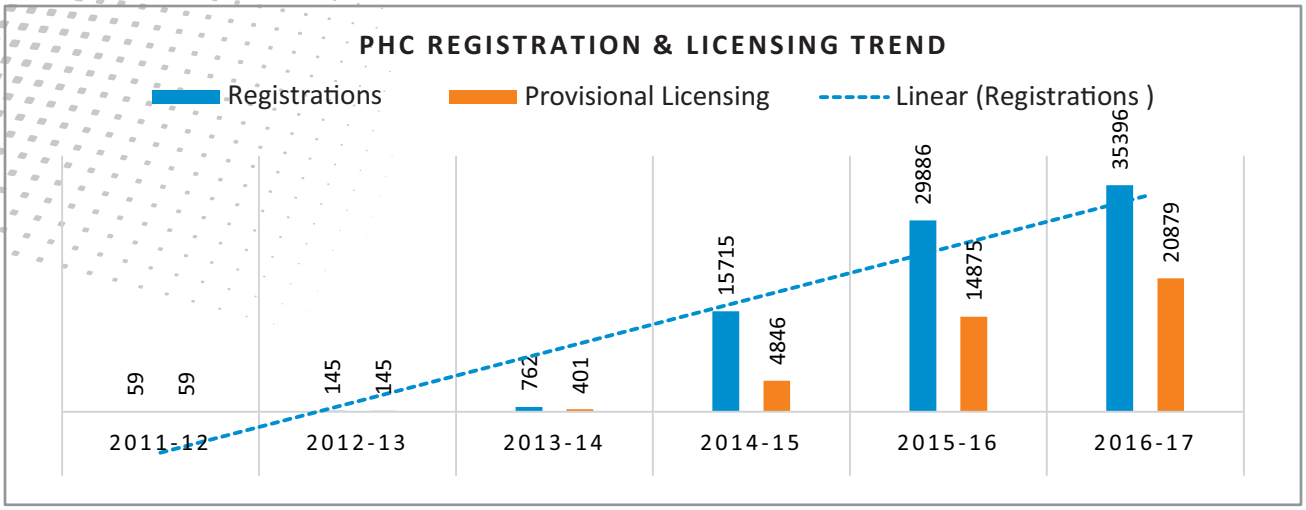


FIGURE 10: PHCC REGISTRATION & LICENSING 2011-2017 - SOURCE PUNJAB HEALTHCARE COMMISSION

8.1 Private for-Profit Health Sector

For-profit hospitals are registered as small-medium enterprises (SME) directed towards profit making and patient volumes: For profit hospitals are owned and run as business like any other SME, owned by individuals or partners (individuals 68% and partnerships 32%) (IFC/World Bank, 2011). However, unlike charities they are not tax exempted and the taxes paid by these hospitals are eventually recovered via the patients' bills. These hospitals market their services and products in private and semi-private organizations that provide health benefits to their employees who are registered on the panel of health insurance companies and are paid on reimbursement basis for costs incurred on the treatment of their employees.

Table 21 shows the number of private "for profit" medical colleges and hospitals in Punjab registered with the Pakistan Medical & Dental Council [35].

TABLE 21: PROVINCE WISE-PRIVATE FOR PROFIT MEDICAL COLLEGES AND AFFILIATED PRIVATE HOSPITALS (PMDC - 2018)

Province	No. of Private Medical Colleges and affiliated Hospitals
Punjab	38

There are almost 74,000 private clinics in Pakistan (majority is envisioned to be in Punjab and Sindh provinces), which are unregulated and lack quality of care, due to the absence of a proper regulatory structure for harnessing the private health sector. There are more than 40, 000 pharmacies in the private sector, mostly unregulated [36]. There are major data gaps on private diagnostic and laboratory services in Pakistan. In Pakistan, more than 50% of the diagnostic facilities are in the private health sector (1600). Such facilities provide routine and tertiary diagnostics including: Computed Tomography (CT), Magnetic Resonance Iimaging (MRI) and more. With the exception of certain high-tech diagnostic facilities in large cities, quality of healthcare is a major concern. The high cost of these services can also pose a major financial burden to the consumer [37] (Table 22).

[35] http://www.pmdc.org.pk/AboutUs/ListofHospitals/tabid/111/Default.aspx
[36] Analysis of the private health sector in countries of the Eastern Mediterranean Exploring unfamiliar territory, EMRO 2014
[37] Analysis of the private health sector in countries of the Eastern Mediterranean Exploring unfamiliar territory, EMRO 2014

TABLE 22: PUBLIC AND PRIVATE: PRIMARY HEALTHCARE CLINICS CENTERS, PHARMACIES AND DIAGNOSTIC FACILITIES (NHA 2015-16)

PHC Clinics & Centers		Pharmacies		Diagnostic facilities	
Private	Public	Private	Public	Private	Public
73,650 (92%)	5941 (8%)	40,000 (73%)	15,000 (27%)	2 400 (60%)	1,600 (40%)

8.2 Private Not for-Profit Health Sector

The nonprofit sector is a mix of philanthropic medical sector, NGOs involved in PHC and population, emergency services, and advocacy / capacity building entities. The philanthropic medical sector is the most well established in Pakistan (and especially in Sindh) with more than 20 medium to large entities offering medical or speciality services and having large patient volumes. The NGO sector targeting PHC and population related development work has 11 well established entities. The emergency network has fewer entities but probably the largest network with outreach across most areas of Pakistan [38].

Philanthropic/ Non-Government organizations (NGOs) are working in both urban and rural areas of Pakistan. These organizations are working in multiple sectors to uplift the community by providing awareness and basic amenities of life. Philanthropic organizations are registered under different laws whereas very few are unregistered. Philanthropic sector is different from 'state' as it collects donations, charity or alms from the community and uses it for deserving communities, voluntarily.

9. Human Resource for Health Indices

There are total 88 medical and dental colleges in Punjab recognized by the PMDC, 23 are public sector institutes whereas the remaining ones are in the private sector [39]. There are 109 schools of nursing (76 in public and 33 in private sector), 141 schools of midwifery, 26 public health schools and 7 colleges of nursing. In Punjab, there are 40 including PHNS and midwifery schools. In addition to Public sector there are 11 School of nursing and midwifery in private sector and 4 combined under military hospitals are registered with PNC.

The densities per 1000 population of workforce for the Punjab Health are acutely deficient. Data from Figure 11, shows the density of doctors including specialists of 0.83, nurses, midwives and LHVs stand at 0.56, while the density for the essential work forces stands at 1.39 per 1000 population.

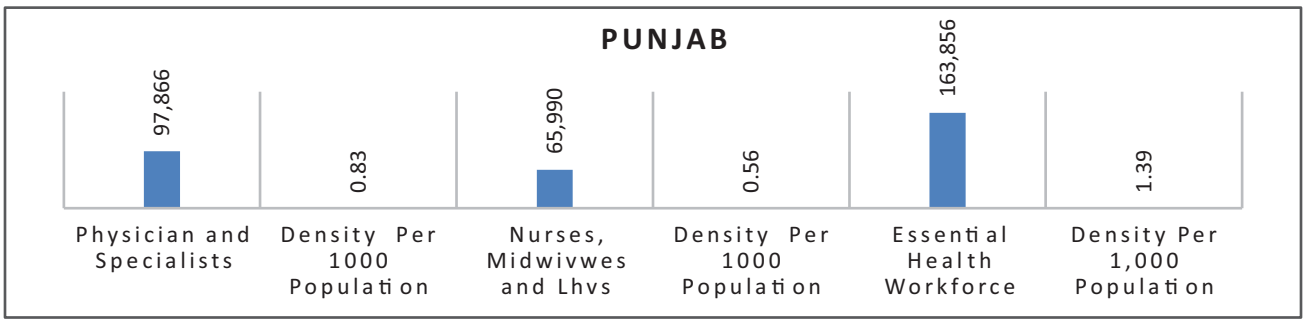


FIGURE 11: HR DENSITIES FOR PUNJAB - SOURCE HRH VISION 2018-30 PAKISTAN

[38] Health and Social Work - Private Sector Hospitals, IFC 2121 Pennsylvania Avenue, NW, Washington, DC 20433, USA - May 2011 http://www.pmdc.org.pk/MedicalandDentalColleges/tabid/333/Default.aspx

[39] HRH Vision 2018-30 Pakistan

While comparing this with the benchmarks laid out by WHO[40] that is a value of 5.9 skilled health professionals (midwives, nurses and physicians) per 1000 population was identified as the workforce requirement for ending Preventable Maternal Deaths initiative, which entails reducing global maternal deaths to 50 per 100 000 live births by 2035; it can be seen that Punjab is no way near these targets.

The LHWs being a critical work force for the communities mainly in the rural areas are acutely short in Punjab. The LHWs in Punjab cover a population of 67 million individuals across rural (55 million) and the rest in urban areas. Since regularization, the Lady Health Workers have been declared a dying cadre by the Government of Punjab. Therefore, new LHWs are not being hired by the Program. Currently, the annual attrition rate of LHWs is approximately 600. The area that is left uncovered by the LHWs exiting the program (either due to retirement, termination or resignation) is being covered by attaching the population to LHWs working in adjacent areas – the density per 1000 population of the LHWs is very critical and alarming (Figure 12). The current average population coverage by LHWs is 1500 in rural areas and 1800 in urban areas[41].

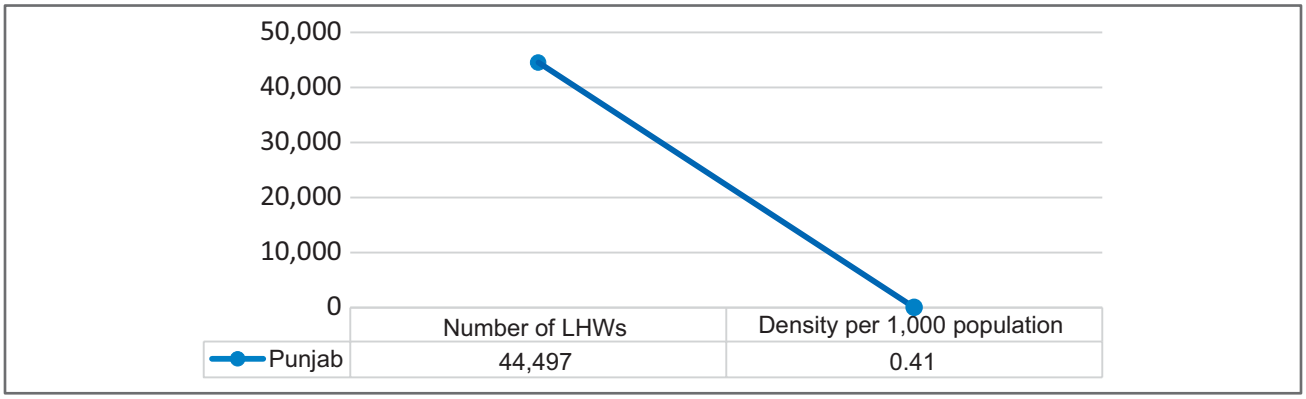


FIGURE 12: DENSITY OF LHWS PER 1000 POPULATION IN PUNJAB – PAKISTAN HRH VISION 2018-30

The total number of LHWs at the end of the year 2017 was 44,556 and Lady Health Supervisors was 1803. The decline in the number of LHWs in Punjab is depicted in Figure 13 below. The key point here is that the numbers have not risen to keep pace with population growth. In absolute numbers there is not much decline from 44,979 to 44,556. The main concern is that the numbers should have risen as population increased, Figure 12 captures this decline relative to population growth.

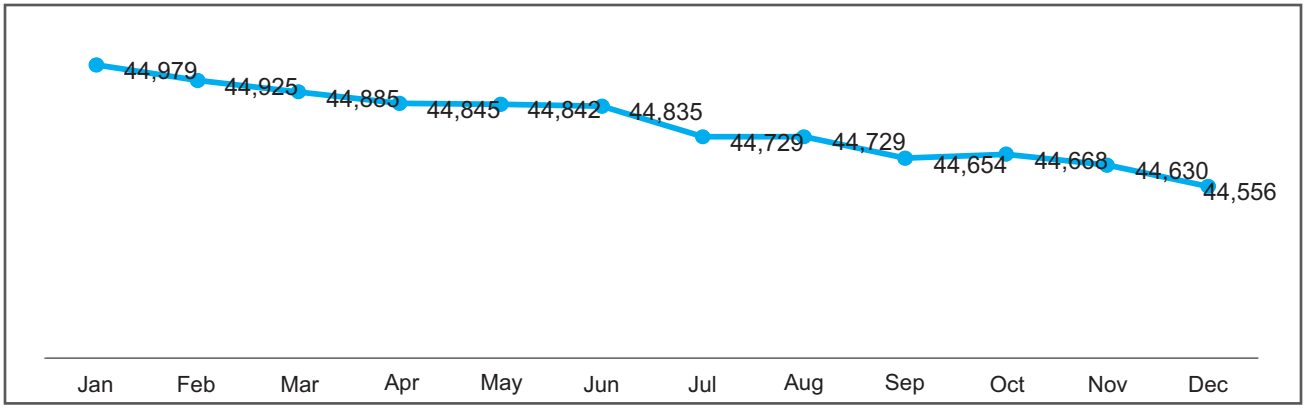


FIGURE 13: DECLINE IN NUMBER OF LHWS IN 2017 - SOURCE IRMNCH&N PROGRAMME

[40] Health Workforce Requirements for Universal Health Coverage and the Sustainable Development Goals
[41] Annual Report 2017 of the IRMNCH&N Programme Punjab

The LHW program is covering 78% of the rural population and 30% of the urban population with regularized cadre of LHWs & LHSs and a uniform infrastructure is spread over 36 districts of Punjab and providing Primary Healthcare and Family Planning Services at community level to marginalized populations. However, early quoted findings during key informant interviews from a recent under progress assessment of the programme shows gaps in the program coverage, knowledge and skills of LHWs and LHSs, program managements, supplies, monitoring, supervision, workload and performance of LHWs in specific areas. Further, the overall service delivery performance was not upto the mark in all indicators except the counselling for use of clean water and improved hygiene. The decreasing performance can be attributed to job insecurities and pouring more work on an already burdened community staff.

The CMWs in Punjab are hardly seeing 4 patients per month – the targets of the PC-1 are yet to be met by the IRMNCH&N Programme – with the current figures of deployment of CMWs in rural areas, 244 more CMWs need to be deployed in rural areas, 146 in urban slums, and 601 in hard areas. The CMW current status of deployment and target for upcoming tiers as per PC-1 set targets is given in Table 23.

TABLE 23: CMW TARGET INDICATORS AS PER PC-1 - SOURCE IRMNCH&N PROGRAMME DECEMBER 2017

INDICATOR	TARGET	CURRENT STATUS
Deployment of CMWs in Urban Slums	390	244
Deployment of CMWs in Rural Area	2,730	2,486
Deployment of CMWs in hard to reach areas	780	179

More recently the Government of Punjab conducted CMW Policy Review – the findings and the conclusions of the report are noteworthy. "*The impact of the CMW programme has probably been under-estimated with the common consent being that the cadre has limited impact on SBA or ANC. The Punjab Health Survey figure of CMWs being responsible for 4% of skilled deliveries distorts the picture by using as the denominator all births in the province rather than only those in areas where CMWs are active. CMWs are estimated to account for around 14% of deliveries in their catchment areas. Through a combination of SBA, ante-natal and post-natal care, referrals and family planning it is likely that many CMWs are making a significant contribution to safe motherhood in the localities in which they are active*"[42].

9.1 Gaps in HRH Punjab

Punjab is also facing shortage of all cadres of health workers, especially the skilled/essential health workforce (physicians, nurses, midwives) and community-based workers, even to deliver basic and primary health services and UHC. The projections calculated by the National HRH Vision 2030 for doctors and specialists in Punjab is 159,866. With the current standing of the number of doctors and specialists in Punjab is 93,287, an annual production capacity (current production capacity rates) 7,600, another 29,243 doctors are required to meet the needs. Similarly, for the required number of nurses and midwives, the projected gaps for 2030 stand at 505,298, a daunting task given the current deployment standing at 65,990. At an annual production rate of 5,185, another 408,339 nurses and midwives would be needed. The nurses and midwives are acutely short in Punjab to meet the standard requirements and would require great efforts (Table 24).

[42] CMWs Punjab Policy Review – TRF+

TABLE 24: REQUIRED NUMBER OF PHYSICIANS, SPECIALISTS, NURSES AND MIDWIVES IN PUNJAB / EXPECTED GAPS (PAKISTAN HRH VISION 2018-30)

Physicians and Specialist				Nurses and Midwives			
2030 Requirements	2017 status	Minimum Production Capacity 2018-30	Expected gap in 2030	2030 Requirements	2017 Status	Minimum Production Capacity 2018-30	Expected gap in 2030
159,866	**93,287**	**7,600*13**	**29,243**	**505,298**	**65,990**	**5,185*13**	**408,339**

The bars shown in Figure 14 below, give the category wise comparison of staff positions filled of Specialists, General Medical Doctors, Paramedical and other staff percentage. By December 2018, percentage of Specialists Staff filled positions is 54% in Teaching Hospitals, 59% in DHQ Hospitals, 49% in THQ Hospitals, 43% in THQ level facilities, 91% in RHCs, while the BHUs show 100% filled positions of the specialist. The proportion of filled positions of General Medical Doctors stands at 60% in the Teaching Hospitals, 51% in DHQ Hospitals, 53% in THQ Hospitals, 78% in THQ Level, 74% in RHCs, 85% in BHUs, 89% in 24/7 BHUs, and 90% in BHU Plus Facilities. The proportion of filled paramedical positions ranges around 76%-88% and so does the other staff positions. The analysis depicts that there is critical shortage of specialists, while the doctor - nurse ratio of sanctioned and filled is also dismal. More investments are required for upgrading these cadres through incentivizing their presence and through bringing in HR reforms in an overarching HR production policy scenario, attracting more human resource to opt for these cadres.

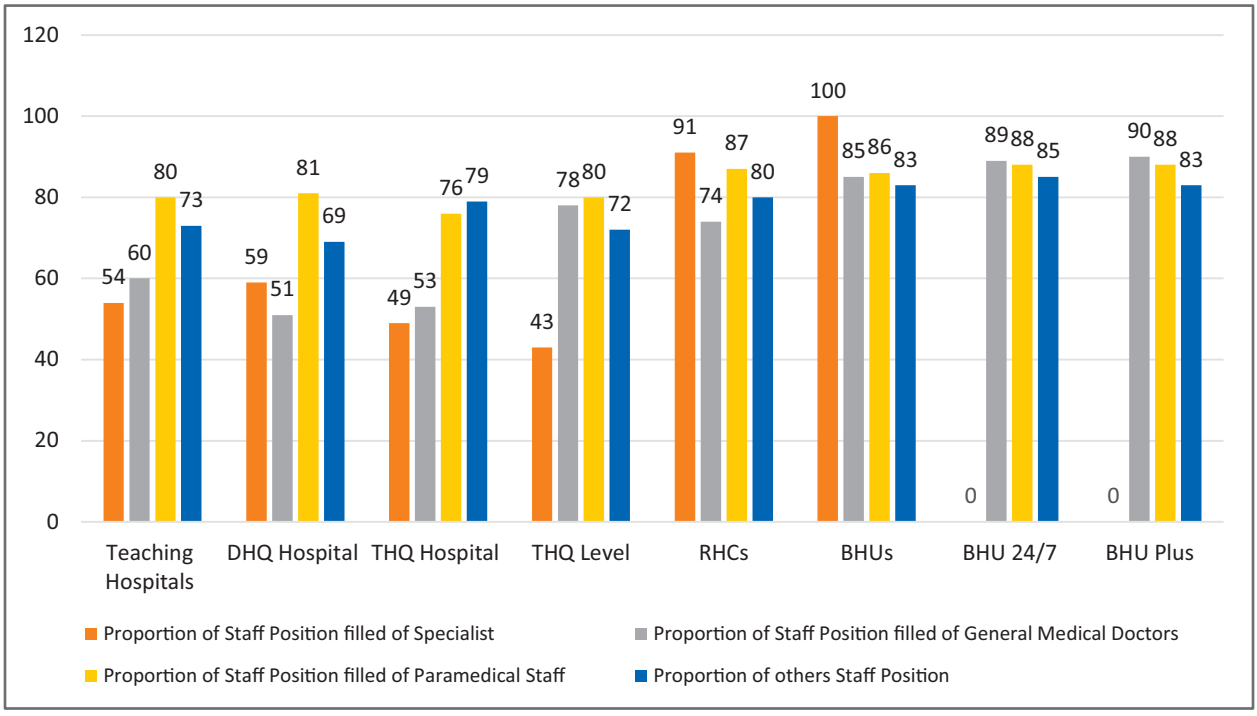


FIGURE 14: PROPORTION OF STAFF POSITION FILLED – SOURCE: DHIS 2018 PUNJAB

Figure 15; the MEAs data depicted from two points in time i.e. 2015 and 2018 shows, 21% and 28% improvement in staff presence in the facilities respectively.

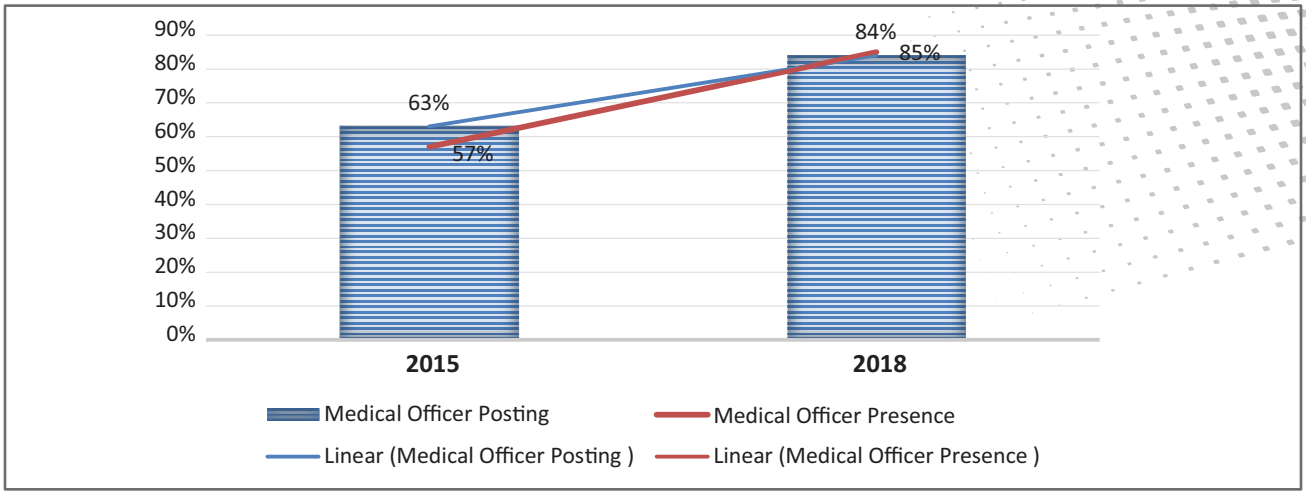


FIGURE 15: STAFF PRESENCE FROM MEAS DATA PUNJAB 2018

9.2 Key Conclusions

Human Resource in healthcare is not appropriately planned in Pakistan and Punjab, with the result that there are more doctors than nurses, dearth of trained midwives, urban concentration, and drainage of HR out of the country, in addition to other issues related to curriculum, quality of graduates and their continuing supervision. The service structure for health workers is poorly defined, as it favours tenure over competence, largely ignores technical capacities and does not allow for performance-based incentives.

The conduct of education for medical, nursing and related cadres is mostly conventional and does not utilize recent developments in the field of medical education. Though curricula have been revised from time to time, in majority of cases they are not locally contextualized and are not based on competencies and skills. Hence it can be noted, that the medical education is not coping with the ongoing professional, technical and global development, and there are hardly any mechanisms to prepare for the future requirements.

In addition, the human aspect of medical education and essential life skills & soft skills required by the health professionals are also missing. There is no organized system for continuing medical education for any health providers who are also largely unsupervised and at times ill-equipped with newer knowledge/skills to tackle emerging diseases. This holds true for management cadres as well.

The types and quanta of services delivered by a primary healthcare facility currently depend solely on the number and categories of health providers present at that facility. The main reason cited for a non-functional BHU is almost always the absence of a doctor.

The health system is currently not conducive to nurses, midwives and allied health professionals playing pivotal roles in ensuring the provision and delivery of effective primary healthcare services in the absence of doctors. Health authorities have yet to be convinced that PHC services can be successfully provided and delivered by nurses, midwives and allied health professionals making up local teams with the relevant staffing complement and skills mix. Currently, no effective mechanism exists for HR planning and

development in both the departments. HR is a critical factor in long term planning, implementation and sustaining of healthcare services. Adequate and appropriate HR is instrumental for the provision of quality healthcare. As discussed above, the department is currently facing problems of inadequacy, limited skills and weak capacity of HR. Non-favourable contractual recruitment policy and uncertainty of career progression has made the government service unattractive.

According to the WHO international standards, the ratio of doctors to nurses should be 1:3; however, in Punjab it is almost 1:1. The importance of the nursing population for healthier communities (compared to individual outcomes in case of doctors) cannot be overemphasized.

Retention and presence of HR is the key to the success of the Health Systems as no Health System can work without a workforce, more the workforce is dedicated and committed, the better performance can be achieved. It can be seen from the narrative in the lines above that Punjab has been lacking in retention and presence of staff cadres. Only stick without the carrot approach cannot work – this therefore calls for developing a HR Development (inclusive of the management) Policy and Strategic framework which is all inclusive of the capacity and incentives (both monetary and non-monetary) of the HR. Initiatives such as the anaesthetist management system introduced by the Health Department have not worked due to lesser incentives. The province of KP is giving much better incentives and better results of retention.

Pre and in-service training is essential, the availability of training institutions like the Provincial Health Development Centre (PHDC) and the Institute of Public Health (IPH) are key to attaining the desired training needs of the department of Health. Medical colleges' curricula lack the management skills and in-depth public health training; inclusion of these fields in the curricula are essential. Revision of the curricula is therefore considered important for up taking these needs.

Health Information and Service Delivery Unit (HISDU) is managing all HR in the hospitals of P&SHD and an IT Cell in specialized healthcare; its strengthening is highly desired to meet with all recruitment related to capacity & HR.

LHW is an effective approach to address the equity and gender challenges in the health sector while ensuring availability of primary, preventive, promotive and some curative care services at the doorstep of community. Currently, the number of LHWs is on the decline, whereas less than 60 per cent of the targeted population (100 percent rural areas and 30 percent urban areas mainly slums/ densely populated areas) is covered by LHWs. Task shifting is essential, mainly for the overburdened cadres such as the LHWs[43] – in notice to their shrinking role. The LHW uncovered areas can take advantage from the vaccinators, in at least creating demand the for antenatal care and referral of cases to the CMWs. Added advantage can come from reviewing the CMWs needs of the population and shifting their focus to added areas currently tasked to LHWs. The Promoting Interventions for Safe Motherhood (PRISM) model of care adopted by the Integrated KP Programme is a good option for consideration – *"The model lays out that the CMW and LHWs will work in a network fashion thereby linking the community with the health facility and strengthening referrals as envisaged in PRISM Model. Taking guidance from the PRISM Model, linkages will be established*

[43] National HRH Vision 2018-30

between the outreach workers and health facility and further strengthened for improved referrals mechanisms. Both the LHWs and CMWs will work closely with each other under the guidance of the health facility in charge to improve maternal, child health and nutritional outcomes. LHWs will be responsible for delivery of antenatal, immunization, family planning and nutrition services by ensuring implementation of the MHSDP at the outreach level. CMWs will provide domiciliary midwifery functions and will actively conduct deliveries in their catchment area. They would work in close collaboration with the LHWs of their area for identification and referral of high-risk pregnancies and complicated cases to the most appropriate health facilities. It is expected that the number of referrals for pregnancy complications will increase over time and the information will be verified through hospital records and referral registers. In addition, they will also be responsible for identification of cases of malnutrition among women of reproductive age and children, manage moderate malnutrition, ensure implementation of CMAM and refer complicated malnutrition to the nearest OTP or Stabilization Centre (SC). The CMW to LHW ratio will be 1:8 as described under the PRISM model. Moreover, in areas with no CMWs, CMWs will be selected from amongst the senior LHWs, meeting the prescribed criteria; suitable candidates will be selected and trained as CMWs at the approved Midwifery Schools recognized by the Pakistan Nursing Council using standardized training curriculum".

The male nurse concept is less tried in Punjab and generally in Pakistan – this may actually prove to be excellent in reducing the acute and critical nurse shortages in Punjab and Pakistan.

Allied health professionals like Physiotherapists, Nutritionists, Pharmacists, technologist etc. as well as the Tibb/Herbal Medicine and Homeopaths cadres are playing pivotal role but are not duly recognized as vital part of the system. Number of registered degree holder pharmacists in the country was 33,455 by the end of 2017, with a density of 0.16 per 1,000 population. There were 39 Pharmacy Institutes (17 in public and 22 in private sector) offering degree programmes (B and/or D) for registration in register 'A' in 2017.

There were 158,767 registered homeopathy practitioners in the country by the end of 2017, with a density of 0.74 per 1,000 population. The number of registered hakims was 62, 54011 with a density of 0.29 per 1,000 population. 139 registered Homeopathy Colleges and 34 registered Tibb Colleges & 4 Tibb Universities and other institutions in the country are playing a critical role in producing health workforce, which offers Unani, Ayurveda, Hikmat, traditional and alternate options for healthcare to the people[44].

In the absence of a regulatory body for allied health workers, information about training institutions and number of allied health workers/paramedics is not fully available. Allied health staff includes laboratory health workers, laboratory scientists, assistants, technicians, radiographers and related occupations. Similarly, in the absence of a proper electronic HRH registry, information regarding environment and public health workers including officers, technicians, sanitarians, hygienists, public health inspectors, food sanitation and safety inspectors and related occupations is not readily available.

[44] National HRH Vision 2018-30

Other health workers include a vast cadre of health service providers such as medical assistants, dieticians, nutritionists, occupational therapists, medical imaging and therapeutic equipment technicians, optometrists, ophthalmic opticians, physiotherapists, personal care workers, speech pathologists and medical trainees.

This category of health management and support workers includes other health systems personnel, such as managers of health and personal-care services, health economists, health statisticians, health policy lawyers, medical records technicians, information technicians, ambulance drivers, building maintenance staff, and other general management and support staff.

Areas such as the Human Resources Management, Performance Review Mechanisms are deficient in terms of its outlay and need substantial inputs.

10. Health Information & Research

The Health Information System activities in Punjab, are based on several vertical health information and surveillance systems. These systems include DHIS, Vertical Preventive Health Programs (LHWs, HIV AIDS, TB, EPI and Malaria), Population & Welfare Department Information System, Service Statistics, Logistics Management Information System (LMIS, cLMIS, and vLMIS), Financial & Human Resource MISs, and Disease Early Warning System (DEWS) etc. It is learnt that there are around 7 MISs being operated by SH&MED and 71 MISs in P&SHD which are managed by PITB, HISDU and MIS cell of DGHS.

Most of these systems are fragmented and inadequately address the needs from the perspective of the policy makers, implementers and district programs. Moreover, the available information systems cannot be substituted, due to vertically designed approaches providing only program specific information/data. The Dashboard approach to health information has been introduced in Punjab at several levels; this is believed to serve the requirements of portraying information needs which is serves the purpose of specific programs only. However, the element of research based on the massive information available in these dashboards is missing.

10.1 Stakeholders of Health Information in Punjab

The Stakeholders of Health Information, include players depicted in the lines below; these have dimensions of working which impinge on monitoring and validity of the data generated through these information hubs, and therefore deserve a mention, to fair completeness of the context.

10.1.1 Department of Health Punjab/District Health Information System (DHIS)

The Health Department of Punjab covers health service delivery across the province through 2,505 Basic Health Units (BHUs), 317 Rural Health Centres (RHCs), 127 Tehsil Headquarters Hospitals (THQs), 26 District Headquarter Hospitals (DHQs), and 49 Tertiarycare Hospitals. DHIS in Punjab has been rolled out in all 36 districts and covers all three levels of healthcare facilities.

The Management Information System (MIS) Cell in Punjab works under the administrative control of Director General Health Services (DGHS). Director DHIS is responsible at the provincial level, while District Coordinator supervises at the district level in all districts of Punjab. DHIS, in districts works under CEO Health, key officials designated for DHIS at the district level include one sanctioned post of Statistical Officer and one post of Computer Operator. Health facilities in Punjab are responsible for the collection, collation and analysis of all data from the public sector health facilities at the primary, secondary and tertiary levels on a uniform web-based software application. The information collection and reporting from all the facilities to the district offices are on a prescribed set of tools and is done manually, while reporting from districts to the provincial DHIS units is through an online web-based information system. The cell is responsible for providing information on the status of health facilities, administrative situation, services and disease statistics listed under the DHIS from across the provinces; the private sector is still not part of the disease reporting mechanism.

The DHIS Punjab is currently loading data from all levels of healthcare in the province i.e. from the primary, secondary and the tertiary healthcare level. In addition, preventive health programmes have separate information systems; these parallel information systems pose serious restrictions on evidence-based decision making in the province. More than ninety seven percent of the health facilities in Punjab are regularly submitting their monthly DHIS reports. But due to weak validation processes, the data remain sub-optimally useful for policy and planning. There has been a continuum of demands for ensuring the validity of the data generated by the health information system, however the concerns have hitherto been unaddressed.

More recently, the Department of Health Punjab, introduced the M&E Dashboard which is linked with the DHIS and Programme MISs; this reflects the outputs on a number of key performance indicators for the road map team, led by the Chief Minister of Punjab.

10.1.2 IRMNCH&N Management Information Systems

The Government of Punjab has integrated three preventive programmes namely National Programme for Family Planning & Primary Healthcare (LHW Programme), Maternal Newborn and Child Health Programme and the Nutrition Programme into one Integrated Reproductive, Maternal, New born, Child Health & Nutrition Programme (IRMNCH&N), to ensure economies of scale and cross synergizing the activities of these programmes.

The salient features of the programme, includes initiatives to address malnutrition and aim to increase accessibility of MNCH services by provision of 24/7 service delivery at selected BHUS, all RHCs, THQs and DHQs.

The IRMNCH project is currently in process of establishing of an e-monitoring/e-reporting system and a web-based program MIS, with linkages to DHIS. Further, integration of MIS regarding FP data at the community and facility level is also one of the activities under the programme objectives. The IRMNCH&N Programme has also developed Key Performance Indicators (KPIs) for all program management and

Tsupport functions at the Provincial and District Management. Currently MNCH, LHW and Nutrition data is online. In addition, cLMIS and vLMIS are also online and analysed by the program. Efforts are being made to linkup IRMNCH&NP to DHIS (integration) in near future.

The IRMNCH&N MIS includes CMW monthly report, Field Programme Officer's (FPO) Monitoring Checklist – this checklist has multiple check formats for monitoring the LHWs and the LHSs, LHW-LHS Monthly Report, Weekly Performance Report of 24/7 BHUs Basic EmONC services, Weekly Performance Report of RHCs, Monthly Performance Report of Stabilization Centres, Check List for Community Midwife to be filled by the LHS, Monthly Performance Report of SO/M&E Officer, and Monthly Performance Report of District Coordinators.

10.1.3 Punjab Information Technology Board (PITB)

The Punjab Information Technology Board (PITB) is an autonomous body established by the Government of Punjab. The Board being the provincial technology spearhead, is responsible for maintaining the foundational IT infrastructure and system of Punjab. The PITB is facilitating all vertical programs including PSPU, Health roadmap, Minister Delivery Unit in development of android based applications for data collection/analysis/monitoring from district to provincial level and updating of weekly, monthly and yearly data at respective dashboards to be used by the program managers and policy makers for review/feedback and strategic planning.

10.1.4 Health Information and Service Delivery Unit (HISDU)

HISDU performs the role of visceral backbone of the P&SHD by e-service delivery ensuring smooth and efficient transmission of directions, initiatives and requests for proper and timely disposal. Being a facilitation centre, it also helps to implement one window operation by facilitating any kind of order from the department within a stipulated time period.

HISDU has completely automated the secretariat of the department and is IT support unit of P&SHD. Alongwith various customized android based applications and SMS alerts, eighteen Information systems like Human Resource Management Information System, Prescription Management Information System, Resource Management System, Annual Development Program Management Information System, Procurement System, KPIs System have also been developed and managed by HISDU.

It also houses Command and Control Centre by establishing 24/7 CCTV monitoring of all secondary care health facilities and programs of P&SHD. For efficient personnel management, all personal record has been computerized. System generated order and video conferencing with CEOs and MS of secondary care health facilities has eased the communication between policy makers and policy implementers. GIS cell in HISDU has not only mapped HFs of the department but also track nearest vaccination centres

10.1.5 ICT Cell (Specialized Healthcare and Medical Education)

For smooth functioning of the department, Specialized Healthcare and Medical Education Department has also established ICT cell. This cell has introduced a paperless environment by creating a number of web portal for the employees for their online leave, NOC, Retirement notifications and sharing online information of all official orders. Human Resource Information portal (HRMIS) has automated HR profile of employees of all universities, colleges and Teaching hospitals of SH&ME.

In addition to developing Complaint Management System and KPI system to track the performance of its employees, following systems are created to monitor the key areas of hospitals.

1. Ventilator Status Management System: to monitor the ventilator status of the hospitals.
2. Equipment Control and Inventory Management:
3. MACS – Maintenance and Cleanliness System: to provide high quality janitorial services and maintenance as per standards of MSDS across Punjab.
4. Medicine Inventory Control System-MICS:
5. Online Local Purchase – LP: to monitor daily progress for LP with online tender, rate evaluation and order to vendors to ensure continuous supply of medicine and eradicate price fluctuation by different Brands in different hospitals.
6. Disease Surveillance System (DSS): for all communicable diseases and generate alerts for teaching hospitals for standardized response in case of any outbreak.
7. Integrated Blood Transfusion System: has been piloted in PIC Hospital. This system deals with all phases of blood transfusion ranging from generating Blood request, grouping, screening, cross matching to the actual donor bleeding and feedback from donors.

11. Health Knowledge Management & Research

Currently in Pakistan, much information/data is being generated in the health sector focusing on neonatal and maternal health, service delivery etc., however, there are major gaps and missing links between what is needed (demand) and how it can be met (supply). In order for knowledge (evidence-based) to be shared and used properly (for policy and implementation), assessing the needs/demand of target audiences is crucial so that there is a systematic and continuous link/flow between what information is required by whom and how (and by whom) it is provided in a timely manner. Key primary target audiences for this strategy are policy makers, planners, programme managers, and district managers. Secondary audiences are professional associations, civil society, research institutions and media.

Consultations with relevant stakeholders indicate that there is a demand for evidence-based knowledge among various players/audiences in both public and private sectors, however, a deeper assessment needs to be made on the demand side along with identifying channels for communicating timely and relevant information. Addressing demand side issues for accessing and using knowledge will require understanding the profiles of the key target audiences to ascertain their values, attitudes, opinions, interests and communication preferences.

Punjab has done a lot in generation of data and information mainly targeting monitoring of the work force, however the fragmented data lying with multiple institutional hubs is hardly analysed to bring out useful research. Some of the outstanding key issues observed are:

- The general lack of interest in generating information from the HISs for planning and decision making is a major hindrance in determining and qualifying the data to be assessed on validity.
- Over-reporting by the field staff, influenced to show results against the set targets of the programmes to meet the road map requirements.
- Shortage of qualified and trained staff, with vacant positions of the sanctioned staff categories.
- Lack of proper trainings and refreshers.
- Significant fragmentation and duplication in data collection, with limited incentive to collaborate on data collection, data sharing, or leveraging common data sets between the programmes and the DHIS.
- Non-use of data by those providing or managing health services at the local level results in data unverified leading to validity issues.
- Tying performance with salaries and reporting targets leads to false reporting.

11.1 Key Conclusions

The ownership and commitment of the health information units by the Managers weakens the transformation of valid information.

The objective of a health information system is not to produce information but to use it; it is observed that while many factors other than information influence the decision-making process, the potential for using information is rarely considered while taking decisions; this amounts to the fact that data is unchecked and will always point to verification and validation issues.

Although fragmented health information functions do exist at the provincial and district level, within the parameters of static facility based service delivery and programmatic components of the health sector, but these do not compose or complement the true foundations of a health information base, which is in tandem with the needs and institutionalizes within the scope of Health Systems; parallel structures with different needs of data collection and reporting tend to decompose the true picture, articulating information which is specific for the purpose it is generated – while this data or information may be true for that specific need but generalising and comparing different data sets generated through different systems may raise the question of validity.

Protocols and Procedures with regard to report submission at the facility, district and provincial level are available, but are not being followed; training and refreshers are non-existent and the consideration that these be regularised is not a priority.

Punjab Health Information System does not include the process of data verification and appropriate Data Quality assurance systems; fragmented approaches on individual basis by staff evolved through self-experiences are being practiced, but a proper validation function is non-existent.

It is observed that the routine M&E functions of the department need improvements, both in case of the DHIS and the IRMNCH&N Programme. Staff tasked to other matters and not having enough time for this important and core duty is yet another issue.

Maternal & Neonatal Death Surveillance and Reporting (MNDSR) system is reporting at the community level by the LHS, but data is patchy and unreliable- not rolled out at facility level yet- this is an important step to get reliable information on neonatal and maternal deaths, if we are to bring in evidence-based initiatives for prevention.

Technical expertise to transform information to intelligent conclusions and reports, inferring performance of the health sector, with its intended health outcomes, needs to be improved.

Introduction of DHIS2: DHIS2 is the flexible, web-based open-source information system with awesome visualization features including GIS, charts and pivot-tables implemented in 47 countries. It is a free and open-source solution that runs on just about anything. DHIS2 is the next evolutionary step in District Health Information Software system, and is a next-generation data collection, aggregation and reporting tool.

Another systemic concept reflective of the desire to have valid information usable for policy and planning needs is the establishment of a Health Sector Knowledge Management Unit or Information Resource Centre; this unit/centre can be entrusted with all functions of a Health Information System, i.e. the collation of the collected information, its verification, validation, and quality assurance, analysis and depictive reporting. The DHIS and all Programme MISs shall report to this Unit/Centre and the programmes/department is informed by this unit.

12. Key Health Indices

12.1 Reproductive, Maternal, Neonatal and Child Health

Pakistan and Punjab's key health indicators severely fall short of the required levels. Over the past years, health sector aimed at improving the health indicators such as infant mortality rate (IMR), under five mortality rate, immunization coverage, contraceptive prevalence rate (CPR) and deliveries by skilled birth attendants (SBA). Declines in infant and child mortality rates have been far slower than in neighboring countries. Similarly, official reports from Pakistan depict that the current status of Infant Mortality Rate (IMR) in Punjab is 62 (per 1,000 live births); and Maternal Mortality Ratio (MMR) is recorded as 170[45] as shown in Table 25. Given, that Pakistan has one of the lowest doctors, dentists and paramedics to population ratios, the percentage of mothers attended to by skilled health staff during childbirth is 86.2[46].

[45] Punjab Health Sector Assessment Report 2017 – Asian Development Bank

[46] PDHS 2017-18

TABLE 25: KEY HEALTH INDICATORS OF PUNJAB / PAKISTAN - SOURCE PDHS 2017-18 & MICS 2018

Key Indicators	Punjab (MICS 2018)	Punjab (PDHS 2017-18)	Pakistan (PDHS 2017-18)
Maternal Mortality Ratio (MMR)	180/100,000	155/100,000	170/100,000
Infant Mortality Rate (IMR)	60/1000	64/1000	62/1000
Under 5 Mortality Rate (U5MR)	69/1000	80/1000	74/1000
Fully Immunized Children	76.5%	80%	66%
Neonatal Mortality	41/1000	52/1000	42/1000
Antenatal Coverage (ANC)	87.3%	92.3%	36.6%
Skilled Birth Attendants (SBA)	76.4%	92%	86.2%
Total Fertility Rate (TFR)	3.7 (15-49 Years)	-	3.2 Birth per Women
Contraceptive Prevalence Rate (Any Method)	34.4%		
Modern Contraceptive Prevalence Rate (MCPR)	29.9%	27%	25%
Unmet Need of FP Commodities	17.8	16%	17%

Given that Punjab has a population of 110 million as per the 2017 census, accounting for more than half of Pakistan's 208 million total population the IMR is 88 and MMR is 227 as per the last PDHS of 2012-13, whereas results of the latest PDHS 2018 on provincial IMR is 73 while there is no comment on MMR.

According to latest survey of MICS 2017-2018, first time Maternal Mortality Ratio has been measured which reflects 180/100,000 live births. Child mortality rates are declining steadily over the past eight years. There was 21% decline in Infant mortality rate from 2014 to 2018. Under-5 mortality rate also declined in a steady way from 104 deaths per 1,000 live births in 2011 to 69 deaths per 1,000 live births in 2017-18. Neonatal mortality rate was stagnant at 55 deaths per 1,000 live births for nearly a decade, the MICS 2017-18 shows that there has been a decline in NMR and now it has decreased to 41 deaths per 1,000 live births in Punjab.

Punjab has shown a remarkable increase in skilled birth attendance from 64.7% in 2014 to 76.4% in2018 as shown by the MICS surveys.

The Contact with a skilled provider for ANC has also visibly increased. However, a closer look shows that only 1 in 2 women have the required number of ANC 4+ visits in Punjab.

Use of modern contraception remains sub-optimal and largely stagnant across both provinces, showing a missed opportunity when compared with the number of women using health services for maternity care. Contraceptive prevalence rate and percentage of unmet needs directly tell upon the population dynamics of Punjab. Recent indicators show the worsening of the situation as CPR has dropped 11% when we compare 2018 with 2014. CPR has gone down on one hand whereas the percentage of unmet need has slightly increased on the other hand meaning there by that either the communities are aware off the contraception but commodities are not available to fulfil their needs or they are not aware about how to get commodities. Use of modern methods has remained largely unchanged in the last 8 years. There has

been a 3% decrease in the use of modern method in 2018 from 2014, which means women are not satisfied from these methods due to improper handling or complications. Spacing of children is another means of promoting health of mothers and hence health of the newborn.

Figure 16 below presents data on unmet need for family planning among currently married women. This indicator helps evaluate the extent to which family planning programs in Punjab don't meet the demand for services. Approximately, eighteen percent of currently married women have an unmet need for family planning services. There has been a slight increase in the unmet needs for family planning, 2% in 2017-18 from 2014.

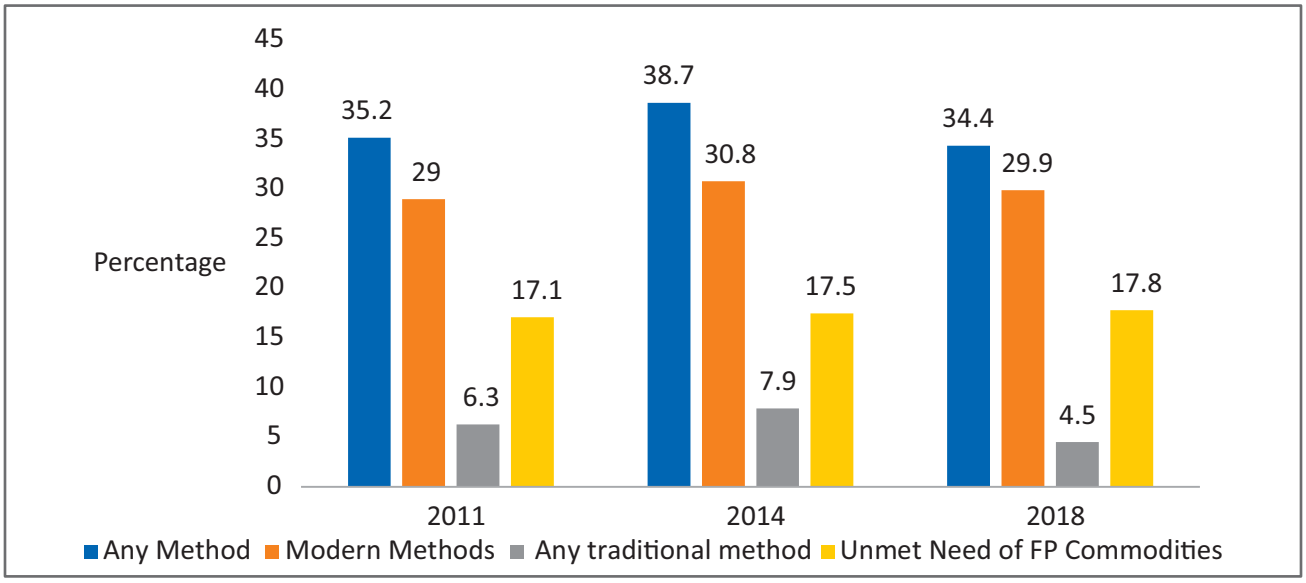


FIGURE 16: TRENDS OF REPRODUCTIVE HEALTH INDICATORS - SOURCE MICS 2011, 2014, 2018

Child immunization has made rapid progress in Punjab and met the Roadmap target of 85% vaccination coverage. Figure 17; According to MICS surveys, Punjab has shown gradual increase in coverage for fully immunized children from 46.8 to 76.5

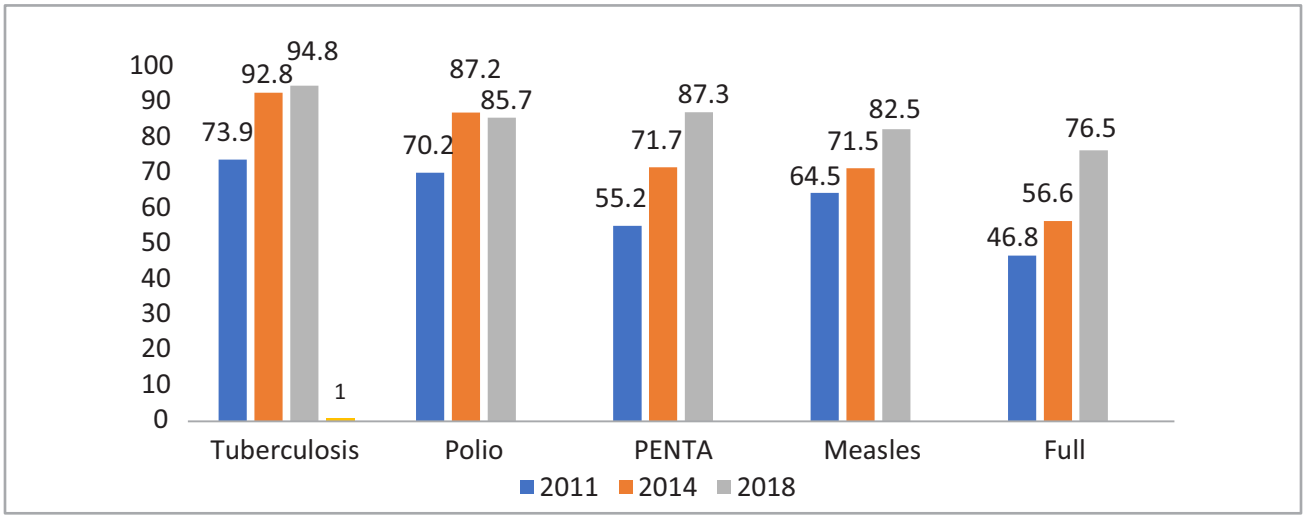


FIGURE 17: TRENDS OF CHILD HEALTH INDICATORS - SOURCE MICS 2011, 2014, 2018

12.2 Undernutrition

National Nutrition Survey (NNS) 2010-11, revealed high magnitudes of malnutrition in the country where both macro and micronutrient deficiencies have been shown to be widely prevalent among women and children. According to NNS 2010-11, over 40% of the women are either underweight, overweight/obese, anemic, iodine deficient or zinc deficient while 31.5% of children under 5 years are underweight; 43.7% stunted and 15.1% are wasted. In addition, 62.1% of children below five years of age are anemic, 56% Vitamin-A deficient, 36.5% Zinc deficient, 36.7% Iodine deficient and 41.1% Vitamin-D deficient[47]. Table 26

TABLE 26: PROGRESS IN MNCH INDICATORS - PUNJAB (SOURCE NNS 2001 & NNS 2011)

	Underweight		Stunting		Wasting	
Child Malnutrition	NNS 2001	NNS 2011	NNS 2001	NNS 2011	NNS 2001	NNS 2011
	38.0	31.5	36.8	43.7	13.1	15.1

As already pointed out that that the situation is worse in children in rural areas as compared to urban setups, where thirty one percent (31%) are stunted as opposed to forty one percent 41% of rural areas. Children of educated mothers are less likely to suffer from this problem as compared to uneducated. Stunting is contrariwise related with wealth quintile; fifty seven percent (57%) of children in the lowest wealth quintile are stunted, as compared with twenty two percent (22%) of children in the highest quintile. Figure 18.

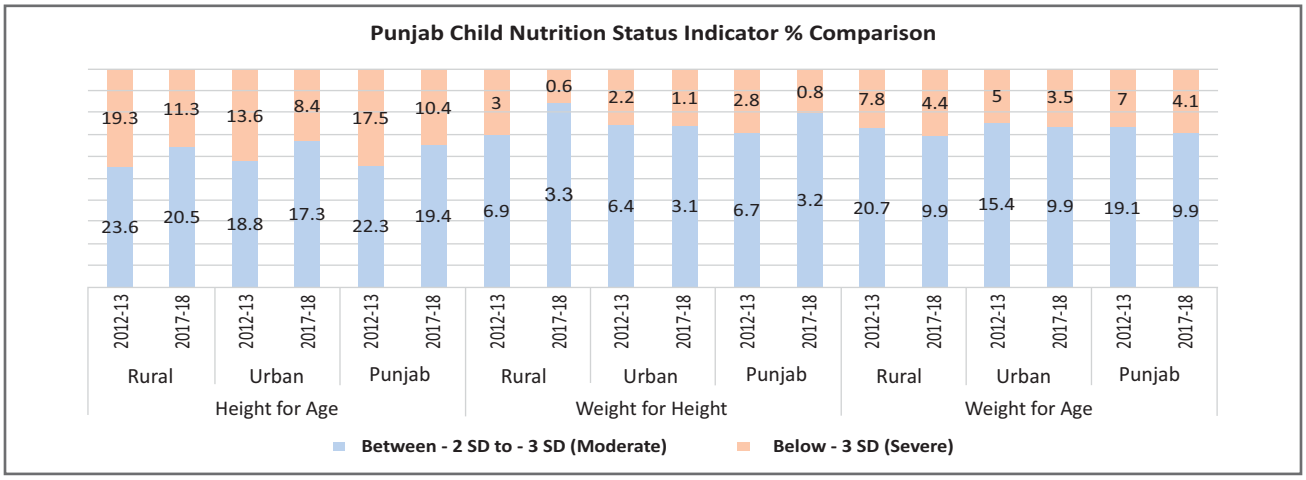


FIGURE 18: PAKISTAN DEMOGRAPHIC AND HEALTH SURVEY 2013-14; 2017-18 – PUNJAB CHILD NUTRITION STATUS

Findings of MICS 2013-14 and MICS 2017-18 shows improvement in nutrition indicators in terms of Exclusive breastfeeding, stunting, wasting & underweight prevalence. while there is decrease in Early initiation of breastfeeding. Pakistan faces an enormous health burden with respect to Stunting in Pakistan in the recent years but gradually it has been decreased from 33.5 % (in 2014) to 31.5 % (in 2018). The Exclusive Breastfeeding has shown a remarkable increase from 16.8 % (in 2014) to 42.1 % (in 2018).

Wasting is another condition that is a representation of nutritional condition of a child. As opposed to stunting this condition is patent to the current nutritional status. Overall, 7.5 % of children are wasted, 2 % children are overweight and 21.2 % are underweight. Figure 19

[47] National Nutrition Survey (2010-11), Planning Commission of Pakistan

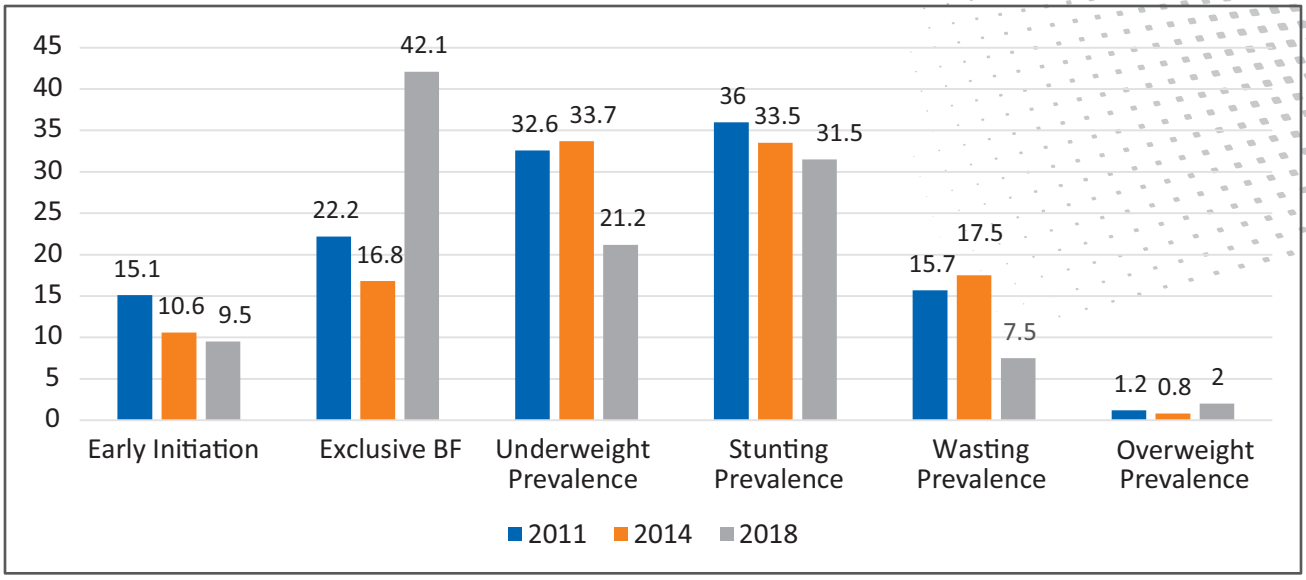


FIGURE 19: MALNUTRITION STATUS IN PUNJAB - SOURCE MICS 2011, 2014, 2018

12.3 Over Nutrition & Obesity

The disease pattern Pakistan is facing is undergoing a changeover from acute and communicable diseases to the non-communicable diseases.

Pakistan is suffering from epidemic of obesity affecting all age groups. Urban population, particularly women, shows considerably higher burden of obesity as compared to men and women from rural population. The burden of obesity is higher among females in all age groups as compared to males. However, among children and adolescents there is variation in prevalence of obesity. Girls from all age groups are predominantly more obese as compared to boys. Most of the studies have estimated child obesity among school going children of different age groups and need careful interpretation[48].

The NNS 2011 also provides illustrative data on the increasing need to address nutrition issues of the population among children, adults and the elderly. Although not yet evident in the under 5 population, there are intriguing indicators in the NNS 2011 suggesting that Pakistan may be witnessing the double burden of under nutrition and obesity among rural and urban women of reproductive age. Overall, in Pakistan, 51.9% mothers were having normal weight, 14.1% underweight and 33.9% overweight while thin mothers were highest (16.4%) in rural areas compare to urban (9.0%) and overweight mothers were higher (48.4%) in urban areas compare to rural (27.4%). Effective interventions are required at population level to prevent and control this emerging public health issue[49].

The NNS 2011 also provides illustrative data on the increasing need to address nutrition issues of the elderly. Although not yet evident in the under 5 population, there are intriguing indicators in the NNS 2011, suggesting that Pakistan may be witnessing the double burden of undernutrition and obesity within rural and urban women of reproductive age. Overall, in Pakistan, 51.9% mothers were having normal weight, 14.1% thin and 33.9% overweight while thin mothers were highest (16.4%) in rural areas compare to urban (9.0%) and overweight mothers were higher (48.4%) in urban areas compare to rural (27.4%).

[48] Obesity, An Emerging Epidemic In Pakistan-A Review Of Evidence. J. Ayub Med Coll Abbottabad. 2016 Jul-Sep; 28(3):597-600.
[49] http://ayubmed.edu.pk/jamc/index.php/jamc/article/view/1485

12.4 Family Planning

Unfortunately, the role of family planning in lowering the maternal and infant mortality has not been realized in full magnitude. All efforts over the past fifteen (15) years have been focused mainly on increasing women's access to antenatal and obstetric care, improving nutrition, enhancing immunization coverage and ensuring treatment for the two major child killers, diarrhea and pneumonia. It is mistakenly considered by most of the policy makers that family planning is a measure for limiting fertility and population growth rather than a core health intervention.

Evidence reveals that between 1990 and 2010, contraceptive use has accounted for about forty percent (40%) of the reduction in maternal deaths in developing countries. If all the unmet needs for contraception in the world were fulfilled, a further thirty percent (30%) reduction in maternal deaths would be achieved (Cleland et al. 2012). In the specific case of Pakistan, Ahmed et al. (2012), estimate that family planning averted 42 percent of maternal deaths in 2008 (with a CPR of 29.2 percent). Birth spacing has also been recognized as one of the strongest interventions to improve child survival rates. According to Rutstein (2008), birth intervals of Thirty-three (33) months would reduce the U5MR by 13 percent; and, in Pakistan, neonatal, infant and child mortality are almost halved when birth intervals are of four (4) years or more, compared to when these are less than two (2) years. At present, Punjab's Population is hundred and ten (110) million and double growth is expected till 2050 if effective and efficient control policies are not developed and executed.

Latest findings from PDHS 2017-18 are reflected in the Figure 20 [50] below and this is an alarming situation in Punjab as CPR instead of improving has gone down which is quite threatening and requires urgent attention.

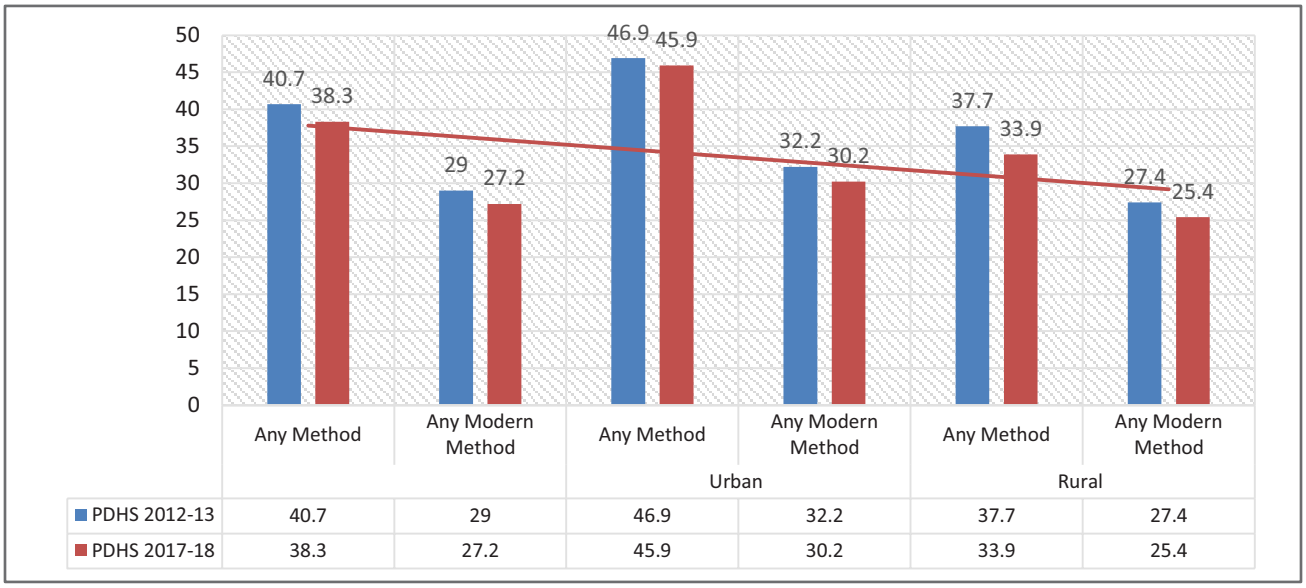


FIGURE 20: FAMILY PLANNING ADOPTION RATE IN PERCENTAGE (TOTAL, URBAN & RURAL COMPARISONS) PUNJAB PDHS 2012-13 & 2017-18

[50] Sathar, Zeba A., Maqsood Sadiq, and Seemin Ashfaq. "Reducing maternal and child mortality in Punjab: The untapped potential of family planning," Policy Brief. Islamabad, Pakistan: Population Council, Evidence Project 2015.

12.5 Disease Patterns & Priority Illnesses

Out of the 53 priority diseases reported by the DHIS, 48 are communicable and 52 are non-communicable. The analysis in Figure 21, shows the most common diseases and disease wise break up. The proportion of communicable diseases was more than the non-communicable diseases out of 53 diseases throughout the year, the total number of communicable disease patients were 52% and the non-communicable disease patients were 48% during year 2017.

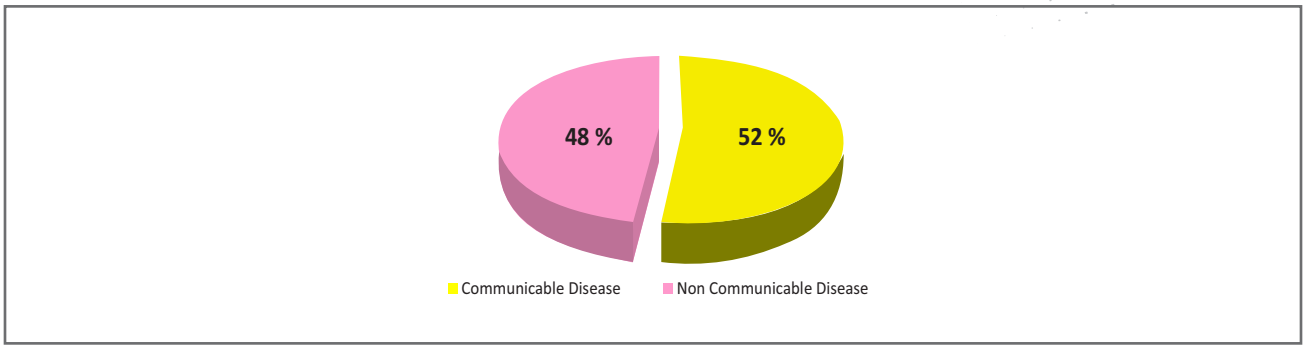


FIGURE 21: COMMUNICABLE AND NON-COMMUNICABLE DISEASES- SOURCE DHIS PUNJAB DECEMBER 2017

Observing the patterns given in DHIS 2017, Punjab - it becomes clear that acute upper respiratory infections are the most common, followed by fever and diarrhoea / dysentery. Hence, communicable diseases still make the bulk of reported visits to the hospital. This can be attributed to either lack of vaccinations and or the specific regional environmental condition. Judging by this graph the number of people attending the hospitals for diarrhoea/dysentery has been reduced, in spite diarrhoea is still the most common and prevalent disease in the region. This can be attributed to the spread of common knowledge regarding the care of diarrhoea among the general population and the widespread use of antibiotic like Metronidazole and ciprofloxacin to combat the wide spectrum of bacterial causes. However, antimicrobial resistance is bound to become a widespread problem in the coming years (Figure 22).

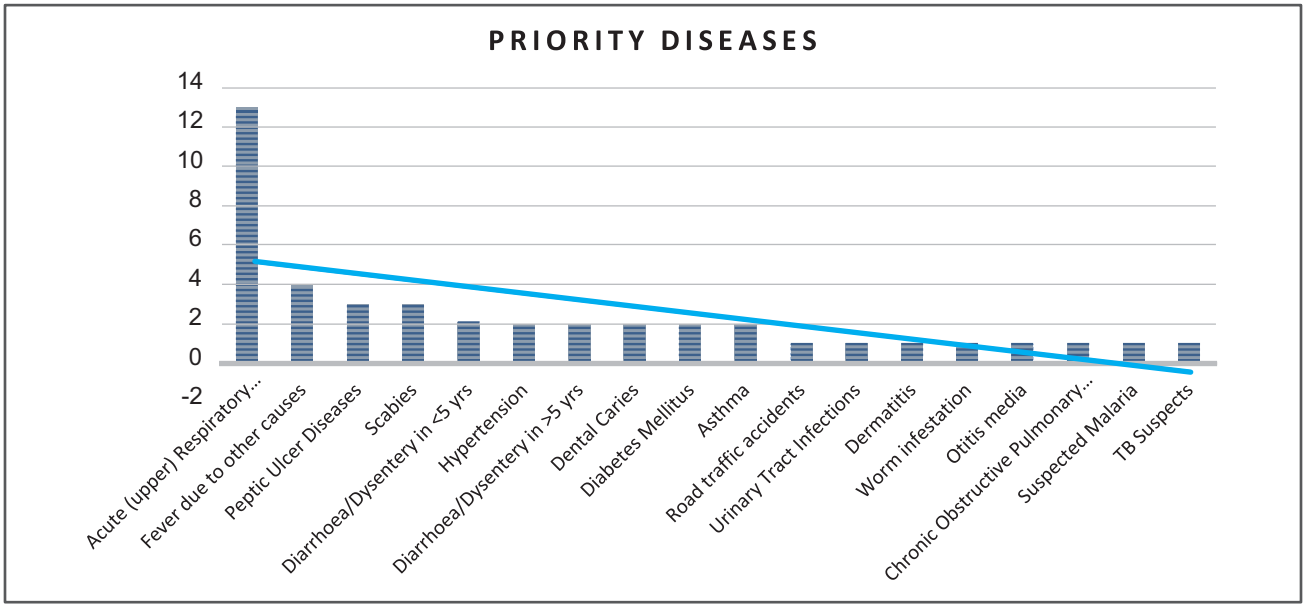
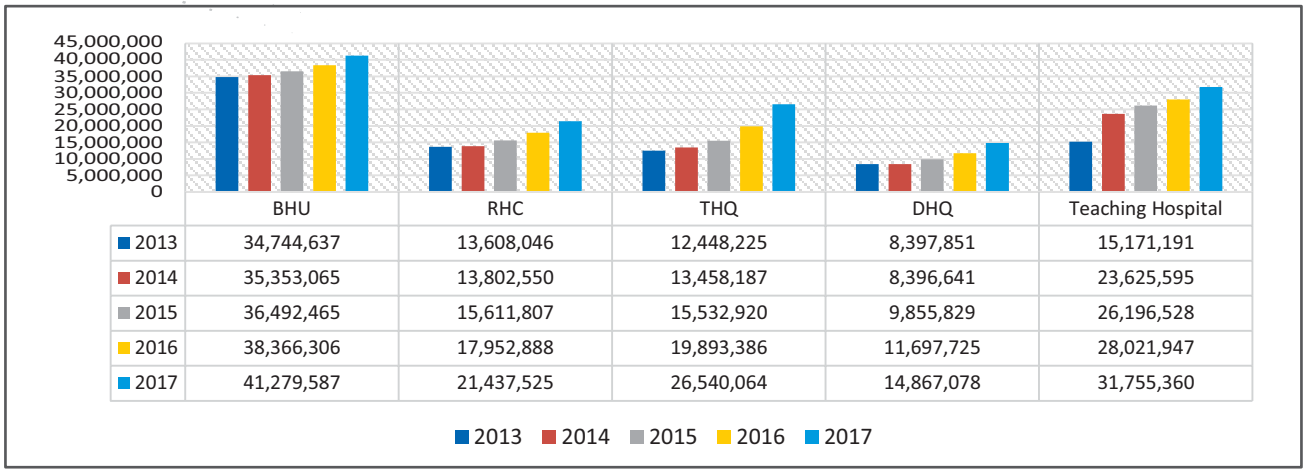


FIGURE 22: SPECTRUM OF PRIORITY DISEASES DISPLAYED PERCENTAGE WISE (DHIS PUNJAB 2017)

12.6 Health Service Delivery Utilization Trends

Patient's utilization is a useful measure for measuring the quality of intangible service products. The graph in Figure 23, below depicts show year wise as well as Health facility wise comparison of Outpatient (New cases & Follow-up cases). Year wise number of Outpatients in Health facility type BHU, RHC, THQ, DHQ and Teaching Hospital is seen to improve over the period, depicting growing confidence in public sector facilities.



	BHU	RHC	THQ	DHQ	Teaching Hospital
2013	34,744,637	13,608,046	12,448,225	8,397,851	15,171,191
2014	35,353,065	13,802,550	13,458,187	8,396,641	23,625,595
2015	36,492,465	15,611,807	15,532,920	9,855,829	26,196,528
2016	38,366,306	17,952,888	19,893,386	11,697,725	28,021,947
2017	41,279,587	21,437,525	26,540,064	14,867,078	31,755,360

FIGURE 23: YEAR WISE AND HEALTH FACILITY TYPE WISE OPD VISITS (DHIS 2017 PUNJAB)

12.7 Quality of Care

Quality Management (QM) is not new to the Department of Health, Punjab and has remained central to the health sector reforms agenda. The PSPU has developed Minimum Services Delivery Standards (MSDS) for improving quality of primary and secondary healthcare facilities.

The Government of Punjab, in the aftermath of the 2011 devolution, revitalized its health sector by undertaking a number of key steps that guided its intent for improving quality of care in the province. The hallmark of this progress stems from the development of the key policy document "Punjab Health Sector Strategy" (PHSS) which lays out one major outcome related to Quality Management.

The development of the Essential Package of Health Services (EPHS) for the Primary and Secondary Healthcare and the Minimum Service Delivery Standards (MSDS) developed for the two levels of healthcare were key elements undertaken by the Punjab DoH in taking forward its determination to improve Quality of Care in the province. Consequently, a conceptual and organizational framework was adopted for Punjab provincial healthcare systems to institutionalize efforts to provide quality healthcare. The establishment of the Punjab Healthcare Commission is central to this effort.

Progress in implementation of the service delivery standards and packages is underway, the Punjab Healthcare Commission (PHCC), regulates both public and private healthcare establishment in Punjab. The PHCC aims to improve the quality, safety and efficiency of healthcare service delivery for all Public and Private Healthcare Establishments in the province.

The literature available on Quality Management in Punjab is insufficient, to lay the grounds for a comprehensive assessment; the overarching impression is, that Quality Management is a non-establishment, however it is most recent that the PHCC established the Quality of Care Unit within its premises. Quality Management as part of medical education, as an essential component of the continuous training/refreshers of medics and paramedics, as part of regular clinical audits in the hospitals, as a regular part of the assessment of the clinical knowledge of the specialists, generalists and practitioners is non-existent. This together with the rampant existence of informal/non-qualified healthcare provider's prescription and diagnostic practices makes it all the more essential for immediate attention be given to Quality Management by the Department of Health.

In addition, the hospitals are built without following a proper quality standard/format; resultantly, the infrastructure does not follow the standard distances between different units per a set standard.

The same is valid for medical equipment, starting from basic diagnostic equipment required for medical consultation moving to more sophisticated imaging, laboratory, sterilization, OT/ICU and anesthesia machines, all is sufficient in some facilities and insufficient to adequately fulfil the referral function of a secondary level referral hospital in the remaining. In fact, specifically at outpatient departments, even though provided by clinical specialists, PHC level services are being offered to most of the patients.

There is no quality management process in place in the visited hospitals; no (written) standard clinical protocols or pathways for diagnostic and therapeutic procedures exist; no quality circles or committees are being established and operational; no monitoring, feedback or review mechanism has been established for key performance and quality indicators – despite the fact that many of the staff interviewed confirmed the necessity of having such tools and instruments of process management in place to guarantee minimum quality levels of care.

Secondary level hospitals are overcrowded with patients who do not require referral services – they simply bypass the PHC level due to a lack of confidence in the quality of care that is being offered at health posts and health centers. Based on author's observation, approximately 80% of patients presenting at the various OPD clinics of secondary level hospitals would only require PHC level services.

Figure 24 below, shows the health facility type wise bed occupancy rate during 2017 from DHIS Punjab. Furthermore, since these averages are generally calculated based on an average number of available staffed beds for a year, they frequently conceal bed borrowing by other.

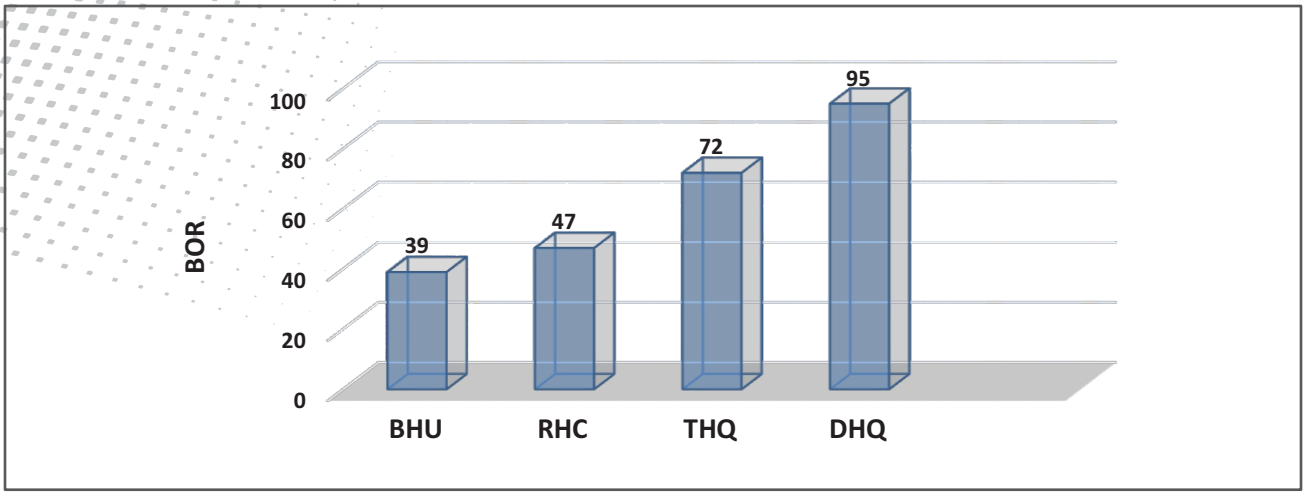


FIGURE 24: FACILITY TYPE WISE BED OCCUPANCY RATE – SOURCE PUNJAB DHIS 2017

The Bed Occupancy Rate (BOR) is the percentage of occupancy obtained by dividing the average daily census by the number of available beds. BOR indicates utilization of hospital indoor services in secondary hospitals, it may also indicate quality of care. Annual Bed Occupancy Rate (BOR) are used to evaluate or compare how hospitals or individual specialties are using their resources. However, the hospital with a high average occupancy rate may not necessarily be running more effectively than the hospital with a low average. High occupancy rates can be due to longer stay rather than greater numbers of patients being treated at hospitals. Figure 25, is showing the monthly bed occupancy rate during 2017. The highest rate is in July (101) and lowest in June (84). The overall bed occupancy rate during 2017 was 87%.

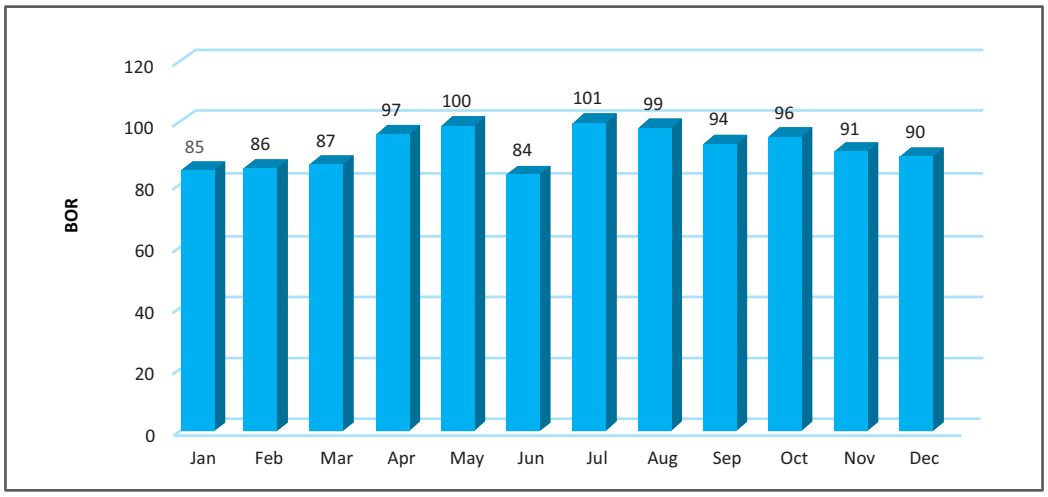


FIGURE 25: MONTH WISE BED OCCUPANCY RATE - SOURCE PUNJAB DHIS DECEMBER 2017

Figure 26 below, depicts the average length of stay (ALS) at the facility, the graph shows that the ALS was consistent throughout the year. This indicator is the measure of the average duration of hospital stay of admitted patients in secondary and tertiary care hospitals. This indicator reflects on the intensity of care delivered to hospitalized patients and the probable burden on hospital resources. Like BOR, it is also influenced by factors like patient management practices, quality of care, case-mix and specialty-mix.

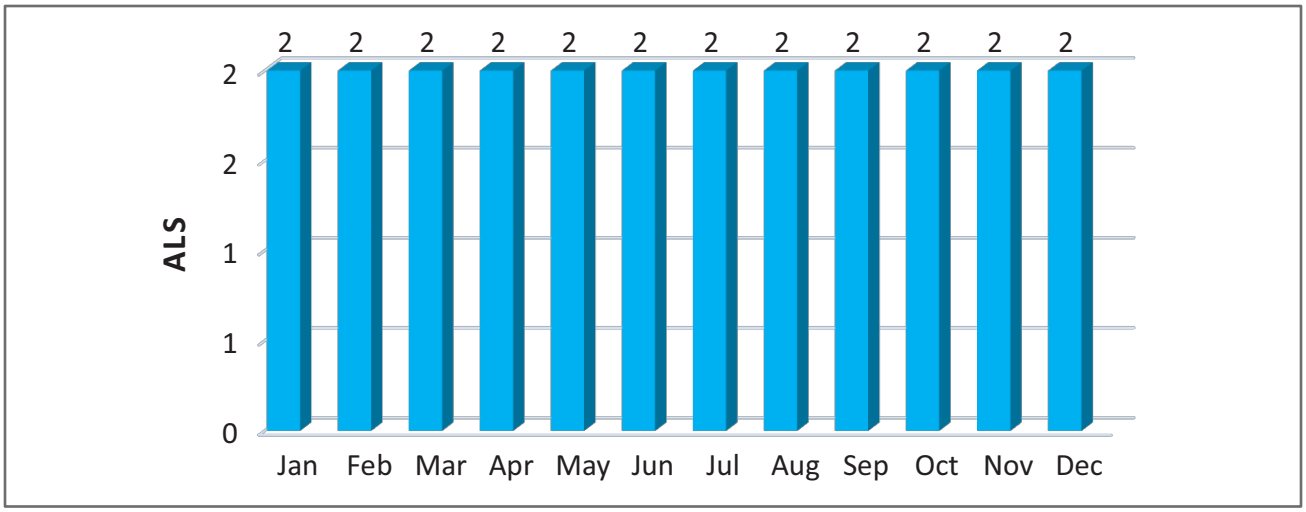


FIGURE 26: AVERAGE LENGTH OF STAY (DHIS PUNJAB 2017)

12.8 Key Conclusions

Although, Punjab has taken multiple key reforms initiatives such as the 24/7 RMNCH focused Ambulance Service (1034), several dashboard to monitor progress on key indicators focused to RMNCH needs, face lifting of primary and secondary healthcare facilities, functionalizing 24/7 of majority of the BHUs and RHCs, handling perfectly the stock outs (although the TCS courier transportation of medicines was learnt during the district visits to have hampered the timely supplies) and improving the nutrition interventions by strengthening the CMAM programme. The efforts of the Punjab Government have however, not been able to shift the attention of the end users from tertiary care, with the tertiary care hospitals still taking up the toll of patients.

Punjab lacks a well-organized referral system to ensure continuum of care from home to comprehensive Obstetric care facilities that is crucial to save mothers and newborns. The large referral system is dependent on factors like affordability, severity of clinical condition of the patient, distance to the health facility, availability of transport, perception of available care at the facility being referred, staff behaviour and lack of attention at the health facility. Of particular significance is the CMWs – it is seen that this cadre is hardly being approached for deliveries – further, the 24/7 BHUs are conducting NVDs but the capacity of the staff interviewed during the visits to the districts shows large gaps in skills.

Quality of care has been a neglected area all across and requires in depth review and implementation in true spirits. With few exceptions (based on individual initiatives), no standard operating procedures (SOPs) like guidelines or clinical pathways exist or are in use in hospital based inpatient and outpatient care. Though it doesn't mean that diagnosis and treatment is totally out of any reference and ending up in chaos as guidance is being provided and control is being assured by heads of departments/senior (specialist) doctors, it is however managed on an individual, case by case basis, following an outdated, strongly hierarchical model of organization of clinical care, rather than a modern, interdisciplinary and inter-professional, team oriented and transparent model that is based on predefined standards following international best practices and considering (publicly accessible) scientific evidence.

Given its importance and considering this has been an altogether neglected area, the recommendation of its inclusion in future support is suggested with a high note of importance. The Punjab Healthcare Commission is currently in process of establishing the quality of care section and needs hand holding extensively. The areas suggested are:

a) Establishing expert committees for each of the above mentioned core disciplines composed of experts (e.g. teachers at the Medical Faculty of Punjab plus heads of departments/senior specialists) working at secondary level hospitals in Punjab; the number of members in each group shall be limited to 12 (4 University level experts + 8 Heads of Departments/Senior Specialist Doctors of SHC hospitals); Each committee shall elect a chair, vice-chair (both representing two different levels of care) and secretary. The committees may engage external experts/support for the development of specific protocols.

b) Definition of the list of diseases/conditions requiring inpatient care at secondary level (based on existing facility / DHIS reports and statistics and expert opinion);

c) Elaboration of protocols for the most frequent diseases/medical conditions requiring secondary level inpatient care (this process may take up to one year);

d) Incremental introduction (as they become available and are adopted by the DoH) of these protocols at pilot hospitals (preferably those that are represented in the committee through individual department heads and senior specialist doctors); experience with the implementation will be summarized in an evaluation report, to be developed for each pilot hospital, and lead to systematic review and adaptation / improvement of the first draft of the protocols.

e) Introduction of the ICD listing is essential to meet with the global requirements.

f) Every second year, a systematic review shall be undertaken of all protocols to make sure they still represent state-of-the-art knowledge and recommendations for diagnostic and therapeutic measures. The process shall be managed by the DoH (Quality Department) with technical support to be provided by the Guideline Committees. Members of the committees may be exchanged while maintaining the representativeness of the two levels of service delivery.

These functions can be mandated to the Punjab Healthcare Commission or can be housed in the P&SHD and the districts should have a say in all committees.

MSDS and EPHS at the primary and secondary healthcare requires further support and all cadres need to be trained on the MSDS. During the interviews with PHCC, it was learnt that the trainings of the public and private sector facility staffs on MSDS have already started but requires further support and technical assistance.

Complaint and Clinical negligence are already being pursued by the PHCC and given its importance it will require international level support of experts from the DFID.

The burden of disease study is essential and so is the mapping of the private sector in Punjab – unless the sector as a whole is not canvased, the true needs and prevailing capacities cannot be portrayed.

The non-prevalence of proper clinical and death audits at the secondary care needs to be embarked upon, no new intervention or shift in an existent intervention can be outlined unless one knows what kind of problem one deals with.

Section 3

Discussion & Inputs by Experts

1. Reproductive Maternal Newborn Child Health

1.1 Maternal & Child Health

Pakistan has some of the highest rates of deaths among children in the world with every 1 in 14[51] children dying before reaching the age of 1, while 1 in 11 do not survive to their fifth birthday; this means nearly half of all deaths in Pakistan are amongst children less than 5-year-old, compared with 8-10% of all deaths in developed countries. Maternal Mortality Ratio of 170 is the poorest amongst the neighboring countries. Pakistan is one of the two countries where polio transmission remains endemic. The rising trend of non-communicable diseases poses a threat to an already high proportion of morbidity and mortality rates from communicable diseases. Maternal, Neonatal and Child Mortality rates are very important indicators to assess the socio-economic development, quality of life and health status of a country. In Pakistan, there are estimated to be 860,000 premature births annually, 36,300 of whom are born at less than 28 weeks gestation. Approximately, 102,000 of children born preterm do not survive. Surviving infants who have received neonatal intensive care are at risk of and are developing (Retinopathy of Prematurity) ROP, as described in an increasing number of publications from Pakistan. According to estimates developed by UN inter-agency group in 2012, it was identified that despite substantial reduction in global mortality in children younger than 5 years in the past two decades from more than 12 million deaths in 1990, to 6.9 million in 2011[52], improvements have been inconsistent worldwide. Some countries and regions have reduced child mortality by more than half, progress in others has been much slower[53]. Half of all deaths worldwide in children younger than 5 years are concentrated in only five countries: Pakistan being one of these five countries.

[51] PDHS 2012

[52] Levels & Trends in Child Mortality. Report 2012. Estimates Developed by the UN Interagency Group for Child Mortality Estimation. New York: UNICEF; 2012. Available at: (http://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2012.pdf).

[53] Countdown to 2015. Building a future for women and children. World Health Organization and UN Children's Fund, Geneva; 2012. Available at: (http://www.countdown2015mnch.org/documents/2012Report/2012-Complete.pdf)

TEXT BOX 1: ISSUES AND EMERGING PRIORITY AREAS FROM THE DISCUSSION IN LARGE STAKEHOLDERS WORKSHOP

Issues identified:

- Service Delivery: The shortage of Basic Emergency Obstetric and New-born Care (BEmONC) facilities and Comprehensive Emergency Obstetric and New-born Care (CEmONC) facilities as per WHO standards is a considerable challenge in service delivery. Adding more to the gravity of the situation is the insufficient number of available ambulances to fulfill the need and timely referral in case a higher level of service is required.
- Human Resource: Punjab also faces a shortage of adequate human resource in various categories and at various levels, examples can be traced while analyzing the estimated need against availability especially with regards to anesthetists, consultants, gynecologists, Lady Health Visitors (LHVs) and Lady Health Workers/Community based health workers
- Supplies and Medicine: Punjab health department has made extensive attempts to improve the status of medicine availability which in return has contributed to the provision of essential drugs down to the level of primary care. However, optimal level of sustained and uninterrupted supply of medicine and other consumables remains crucial to ensure zero-stock outs.
- Private Sector Inclusion: There is a glaring absence to linkage with the huge private healthcare delivery system, hence this sector works unregulated and purely in silos.
- E - Governance and Accountability: Services provided to pregnant women vary in quality, as there is no existing quality of care index for patients. A structured performance assessment system that could facilitate in regular appraisal of progress on important key performance indicators is almost non-existent.
- Management Information System: Information system is deficient in uniformity and at present is entirely fragmented. The existing system does not electronically capture individual patient medical record, which keeps decision makers less informed of treatment outcomes. Available data is not integrated nor is enough to be utilized for evidence-based planning, policy-decisions or reform. Additionally, high growth rate of population, low contraceptive prevalence and the emerging burden of malnutrition due to micro and macro nutrients deficiency are the most important challenges leading to high maternal, newborn and child morbidities and mortalities.

Emerging Ten Priority Areas:

- Improving the access and quality of MNCH community based primary care services ensuring continuum of care including newborn care in rural districts and urban slums
- Improved quality of evidence-based care at primary and secondary level care facilities
- Overcoming financial barriers to care seeking and uptake of interventions
- Increased funding and allocation for MNCH at all levels
- Reproductive health promotion including access to Family Planning
- Investing in nutrition especially of adolescent girls, mothers and under 5 children
- Investing in addressing social determinants of health
- Measurement, monitoring and action at district level
- National & Provincial Accountability and oversight
- Generation of the political will to support MNCH as a key priority within the Sustainable Development Goals (SDGs)

1.1.1 Recommendations by the Technical Experts

Strengthening of the primary level healthcare to work in utmost capacity and ensure maximum functionality to lessen the burden, currently placed on tertiary care facilities was a strong recommendation. Introduction of health cards is expected to be 'the health solution' for those living in marginalized and deprived areas of Punjab. In order to reduce the discrepancies in Human Resource for Health (HRH), the actual need must be established and the required distribution of healthcare staff across all cadres, level of care, geographical levels must also be defined by involving relevant stakeholders and performing a rapid assessment. Shortage of allied health professionals such as Anaesthetics must be dealt immediately, with induction of new recruits and sufficient capacity building of existing human resource. An incessant and regular audit of HR demand and supply must be institutionalized. Electronic information platforms should be strengthened to capture the health-related information along with modules to represent status on human resource availability, essential medicine and equipment. This information, then needs to be translated into to data systems that monitor consumption and derive quantification of medicine, equipment and even human resource requirements. Annual Procurement Plan yet to be phased out, must be developed at the beginning of fiscal year, with constant monitoring to minimize adhoc procurement and accumulation of arrears.

The procurement plans must be made; keeping in consideration, the storage capacity of warehouses. To address the dire need of implementation and demonstration of high-quality cascade of care, strong referral linkages must also be ensured within the present healthcare delivery system. Minimum Service Delivery Standards (MSDS) and Accreditation of service providers by the Punjab Healthcare Commission (PHCC) should remain a high priority that will contribute in assurance of provision of quality of care; both equally and equitably.

Effective interventions to improve MNCH indicators as highlighted through Lancet series on neonatal, child and maternal mortality are as follows:

Appropriate Antenatal Care: Proper antenatal care on at least four visits to include tetanus toxoid immunization, syphilis screening and management, malaria prevention (insecticide treated nets, intermittent preventive treatment in pregnancy), management of urinary and lower genital tract infections, nutrition enrichment including iron / folate supplementation, addressing chronic diseases and pregnancy-induced disorders including pregnancy-induced hypertension, pre-eclampsia, eclampsia, gestational diabetes, and improving psychosocial health. Detection and management of significant intra-uterine growth retardation (IUGR). Doppler velocimetry for early antenatal detection of IUGR, appropriate treatment and timely delivery. **Interventions near and during Delivery:** Skilled birth attendants, Basic and Comprehensive emergency obstetric care including caesarian section and blood transfusions if required, hygienic care at birth including use of clean birth kits, hand-washing with soap and cord cleansing using chlorhexidine, management of term breech and post-term pregnancies, induction of labor after 41 weeks of pregnancy and management of preterm labor with antenatal corticosteroids and antibiotics for preterm premature rupture of membranes. **Immediate Neonatal Care:** Immediate care for every neonate. Delayed cord clamping and cord cleansing with chlorhexidine, interventions to prevent hypothermia including drying, head covering, skin-to-skin care and delayed bathing for every newborn, prevention of rhesus

disease and administration of vitamin K. **Nutrition:** Early initiation and exclusive breastfeeding. **Care of Neonates:** Resuscitation of neonates with perinatal depression and care of infants with neonatal encephalopathy, extra thermal care including plastic wraps for transfer, kangaroo mother care, topical emollient therapy, management of respiratory distress syndrome, hyper bilirubinemia prevention, management and phototherapy to prevent complications, and secondary and tertiary level care, as indicated. **Recognition and Management of Neonatal Infections:** Antibiotics for neonatal pneumonia/sepsis/meningitis, facility-based supportive care with intravenous fluids and intensive care. **Community Platforms:** Community-based delivery mechanisms can act as catalysts and help accelerate in achieving increased coverage of essential interventions especially to the underprivileged and particularly when these are linked to local health facilities. A recent review suggested that community-based interventions have a significant impact on reducing maternal morbidity, stillbirths, perinatal mortality and neonatal mortality[54]. According to National Vision MNCH 2016 Pakistan, ten priority areas have been identified to be focused upon religiously to address the huge challenge of newborn, child and maternal mortality[55].

1.2 Nutrition & Family Planning

The highest percentage of Pakistan's population is youth, as about two third of the total population is under thirty (30) years of age[56]. There is no doubt that youth has an important contribution towards economic and intellectual progress of the country but currently malnutrition situation of the country is one of the biggest threats which could slow down its potential for growth.

Malnutrition is widespread in Pakistan among all ages, and the progress has not been encouraging over the last decade. One-third of children in Pakistan are underweight, 44% are stunted, 15% are wasted, half of them are anemic and almost one-third of the children have iron deficiency anemia. There is prominent inequity between the nutritional indicators of urban and rural populations and among poor and rich wealth quintile. Among women, 14% of women of reproductive age are thin or undernourished (BMI less than 18.5 kg/m^2), and this prevalence is highest among the poorest, uneducated and rural dwelling women. Micronutrient deficiencies are also prevalent among women with half of the women anemic and high rates of vitamin A, zinc and iron deficiencies[57].

As evident that causes of malnutrition and food insecurity are complex and require action from a wide range of sectors. By strategizing across all these sectors, a coherent and effective response which tackles underlying causes has to be there. Way back in 2015, Punjab developed a Multi-Sectoral Nutrition Strategy (MSNS), identifying the important role of nutrition sensitive interventions along with nutrition specific interventions for the prevention and treatment of malnutrition among mothers and children. The MSNS identifies the role of all relevant sectors namely Food, Agriculture, Fisheries, Livestock, Social Protection, Education and WASH. The PC-1s of the relevant sectors and programs have been revised, keeping in view their role in developing nutrition sensitive interventions for preventing malnutrition. MSNS need to be implemented in true letter and spirit under the umbrella of P&D having PSPU as secretariat to ensure all possible support for the implementation of MSNS by mobilizing support from development partners. IRMNCH Program though dedicated Outpatient Therapeutic Program (OTP) and Community based Management of Acute Malnutrition (CMAM) service has been providing screening and treatment services to malnourished children and mother but more concrete efforts are required at every level of service, including teaching hospitals.

[54] Das JK, Rizvi A, Bhatti Z, Paul V, Bahl R, Shahidullah M, Manandhar D, Stanekzai H, Amarasena S, Bhutta ZA. State of neonatal healthcare in eight countries of the SAARC region, south Asia: how can we make a difference?. Paediatrics and international child health. 2015 Aug 1;35(3):174-86.
[55] Bhutta ZA, Hafeez A. What can Pakistan do to address maternal and child health over the next decade? Health Research Policy and Systems 2015; 13 (Suppl 1):49.
[56] Pakistan Bureau of Statistics – Census 2017
[57] Das JK, Achakzai AB, Bhutta ZA. Stop stunting: Pakistan perspective on how this could be realized. Maternal & child nutrition. 2016 May; 12:253-6.

1.2.1 Recommendations by the Technical Experts for Nutrition & Family Planning

Findings from latest PDHS 2017-18 and MICS 2017-18 have shown significant improvement in lowering the wasting and underweight indicators. More mothers are exclusively breastfeeding. However, continuous struggles and focused efforts are a binding to speedy achievement of indicators. These efforts must be taken by Healthcare facilities at all level and must be detailed in strategic roadmap that address malnutrition.

One of the fruitful exercises, would be to gather nutritional status through inclusion of Body Mass Index (BMI) in school admission and inclusion of adolescent indicators in annual and biannual surveys is required. Multi-Sectoral Nutrition Strategy, zero hunger policy and integration of nutrition in healthcare shall be adopted. Furthermore, special attention shall be given to stop intergenerational stunting. Inundated Communication Strategy, IEC material and inclusion of the multiple devastating effects of consanguineous marriages must be highlighted in curriculum.

Keeping in view the literature review and Lancet series on new born child and maternal health, family planning and nutrition, major interventions by age group for improving MNCH indicators have been identified by the technical experts and are reflected below (Table 27).

TABLE 27: MAJOR INTERVENTIONS BY AGE GROUP FOR IMPROVING MNCH INDICATORS

Key Areas - Themes	Interventions & Solutions
Adolescent	Preconception care: family planning, delayed age at first pregnancy, prolonging of inter-pregnancy interval, abortion care, psychosocial care
Women of Reproductive Age and Pregnant Women	• Folic acid supplementation • Multiple micronutrient supplementation (in lieu of iron folic acid supplementation) • Calcium supplementation • Balanced energy protein supplementation • Promotion of use of iodized salt • Tobacco cessation (Pan, Gutka etc.) • Identification of danger signs during pregnancy and prompt care seeking • Promotion of institutional births in the hands of skilled attendants **BEmONC** • Parenteral treatment of infection (antibiotics) • Parenteral treatment of severe pre-eclampsia/eclampsia (e.g., MgSO4) • Treatment of PPH (e.g., uterotonics) • Manual vacuum aspiration of retained products of conception • Assisted vaginal delivery (e.g., vacuum assisted delivery) • Manual removal of placenta • Newborn resuscitation

Key Areas - Themes	Interventions & Solutions
Women of Reproductive Age and Pregnant Women	**CEmONC** All 07 components of BEmONC plus: • Surgical capability, including anesthesia (e.g., Cesarean section) • Blood transfusions
Neonates	• Delayed cord clamping • Chlorhexidine cord cleansing • Early initiation of breastfeeding • Vitamin K administration • Neonatal vitamin A supplementation • Kangaroo mother care • Helping baby's breath (HBB) / Bag and mask ventilation • Essential care for every newborn (ECEB) • Essential care for small baby (ECSB) • Timely identification & treatment of retinopathy of prematurity (ROP)
Infants and children	• Exclusive breast feeding • Promotion of appropriate Complementary feeding & food basket support as appropriate • Biannual Vitamin A supplementation (6- 59 months) • Zinc supplementation for treatment of diarrhea • Multiple micronutrient or iron supplementation as needed • Full Immunization promotion coupled with nutrition counselling • Water, Sanitation & Hygiene promotion • Early recognition and appropriate management of pneumonia and diarrhea • Use of technology: ARI Timer and Pulse oximeter • Oxygen supply & administration • Management of Possible Severe Bacterial Infection in young infants (PSBI) • Perinatal depression and support • Care for babies with neonatal encephalopathy age infants • Extra thermal care including plastic wraps for infant transfer • Topical emollient therapy • Management of respiratory distress syndrome • Recognition and management of neonatal infections • Antibiotics for neonatal: pneumonia/sepsis/meningitis. • Facility-based supportive care with intravenous fluids and intensive care • Hyperbilirubinemia prevention and management • Phototherapy to prevent complications • Oxygen Therapy for Pneumonia

Key Areas - Themes	Interventions & Solutions
Infants and children	• Appropriate use of antibiotics in dysentery • Management of SAM • Management of MAM • Therapeutic Zinc for diarrhea • WASH • Feeding in diarrhea • Malaria prevention in children • Deworming in children • Obesity prevention
Barriers that can be addressed and eliminated	• Stock out of key commodities and supplies • Lack of availability of HR especially MIS • Lack of local data use (Facility/ district level) • Lack of Skill update- Training and Motivation • Lack of real time data for M&E • Lack of coordination among all stakeholders • Integration and effective linkages between community based and facility-based services

A detailed action plan on the basis of these age specific intervention to be implemented at all levels of health facilities, will be prepared using the strategic roadmap and its implementation will be assessed on monthly basis after developing a standard template and pre-defined KPIs. Stringent Governance and Accountability system need to be there to ensure implementation of MNCH, Nutrition and FP action plan. Budget allocation has to be enhanced keeping in view the existing gaps and bottlenecks. Establishing an oversight mechanism through establishing a ministerial board and roadmap will be mandatory.

There is less or patchy coordination of Health Department and Population Welfare Department (PWD) in all dimensions including terms of data collection and resource sharing. Structured mechanism coordination and integration are either missing or not being followed. Involvement of private sector for the Family Planning (FP) service provision needs to be strengthened through an organized mechanism/Public Private Partnership (PPP) model especially in low coverage areas and where there is a high unmet need.

Standardized messages to young/newly married couples in each catchment area of health facilities should be provided that must include pre-marriage reproductive health counselling, information about contraceptive methods and usage. Such initiatives require capacity building of community-based health workers, as number of activities will flourish through them.

Considering the population pyramid of population, youth centred policies, legislation to prevent under-age marriage and pre-marriage screening for communicable diseases especially for Thalassemia and other genetic disorders must be given due attention.

Although knowledge about family planning and its various methods is quite high but there is strong need to have a comprehensive, radically balanced provincial plan which supports the regular information, education and communication (IEC) campaign by involving Pakistan Electronic Media Regulatory Authority (PEMRA). Memorandum of Understanding (MOU) of allocating free airtime for family planning unified/standardized messages must be initiated. Through discussions and talk shows, different myths and misconception about Family Planning can be effectively removed.

Counselling has been found a weak part of the entire process, hence it is mandatory to place counsellors at all entry points of health service delivery for counselling about contraceptives and PPFP. There is also a need to develop coordination between the two department; and counsellors hired by the PWD need to be placed at the level of HFs for effective counselling of patients visiting obstetrical and gynae department. In case of shortage of HR, it can be filled through hiring of additional counsellors by Health and PWD departments. Role of Psychologist and placement of this cadre as counsellors must be taken up as a prime concern.

Increase in use of traditional methods manifest that people require and want to use birth-spacing/controlling methods. The real cause of behavioural shift towards traditional methods must be further analysed to understand the real cause of this trends. Afterwards, strategies can be developed to help individuals and couples to opt for methods that meet their unique needs of birth-spacing.

An accountability framework, robust management information system, evidence-based interventions and performance assessment mechanism needs to be developed/strengthened. Attempts must be made to avoid early pregnancy. A legal age of marriage must be declared and bring into regulation and legislation.

Since first making a commitment to FP2020 in 2012, Pakistan has demonstrated ongoing efforts toward the promotion of family planning. Pakistan must strengthen collaboration among regions under a devolved system in order to reach 6.7 million additional users and increase CPR to Fifty percent (50%) by 2020. Though all provinces, including Punjab has developed costed-implementation plan yet its execution is still a question.

A task-force along with a provincial level steering committee for synchronized efforts must be notified, which is chaired by Minister-Health/Chief Minister Punjab to evaluate progress.

With the recent Supreme Court Suo Moto on Family Planning taking it as a human right issue, focus on FP has and will be much more enhanced resulting in a renewed and bold commitment to FP and all recommendations made during population conference will serve as key roadmap for FP and population issues.

1.3 Adolescent Health

Need to focus on the adolescent health as an entry point for improving the health of women and children has been greatly realized especially because an estimated 10 million girls younger than 18 years are married each year[58]. There is a range of interventions in relation to adolescent health and nutrition, which could affect the period before first pregnancy or between pregnancies. Evidence supporting reproductive health and family planning interventions in this age group suggests that it might be possible to reduce unwanted pregnancies and optimize age at first pregnancy to reduce the risk of small-for-gestational age (SGA) births. Using community and school-based platforms, micronutrient deficiencies and emerging issues of overweight and obesity might be addressed[59].

Important factors indirectly related to maternal, fetal and neonatal nutritional status and pregnancy outcomes include young age at first pregnancy and repeated pregnancies. Young girls who are not physically mature might enter pregnancy with depleted nutrition reserves and anemia. Adolescent pregnancy is associated with 50% increased risk of stillbirths and neonatal deaths, increased risk of preterm birth, low birth weight and asphyxia[60] [61] [62]. Adolescents are especially prone to complications of labor and delivery, such as obstructed and prolonged labor, vesico-vaginal fistulae and infectious morbidity. In societies in which most births are within a marital relationship, interventions to increase the age at marriage and first pregnancy are important[63].

1.4 Genetic Disorders

Genetic disorders have received ordinary attention across Pakistan. Disorders like hemoglobinopathies, bleeding disorders (Haemophilia, Von Wille brand Disease), Osteoporosis, Trisomy 21, and deafness are fairly common in Pakistan. The carrier prevalence rate for beta-thalassemia is 5.4% of the total population[64]. Fortunately, Punjab Thalassemia Prevention Programme (PTPP) is actively engaged in thalassemia prevention and treatment. Nevertheless, PTPP faces many challenges due to suboptimal blood transfusion services, lack of lab facilities; also, few centres offer Bone Marrow Transplant (BMT) but numerous patients bear Out-of-Pocket expenditure and cost remains high.

1.4.1 Recommendations by the Technical Experts

Reduction in new cases requires interventions like aggressive targeted mass media awareness campaigns through print, electronic and social media. Youth can be sensitized and awareness may also be raised by including the significance of early detection of genetic disorders in curriculum. Reduction in incidence of thalassemia can be further improved through dedicated and up-scaled services which encompass; apart from regular screening, the mandatory premarital screening and prenatal diagnosis. Additionally, legislation and regulatory mechanism for premarital screening, establishment of genetic testing lab and national registries must be formalized. In existing health facilities, centers of thalassemia care should be

[58] Reaching Child Brides. Report 2012. The Partnership for Maternal, Newborn and Child Health. Available at: (http://www.who.int/pmnch/topics/part_publications/knowledge_summary_22_reaching_child_brides/en/)

[59] Bhutta ZA, Das JK, Rizvi A, Gaffey MF, Walker N, Horton S, Webb P, Lartey A, Black RE, Group TL, Maternal and Child Nutrition Study Group. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?. The lancet. 2013 Aug 3;382(9890):452-77.

[60] Haldre K, Rahu K, Karro H, Rahu M. Is a poor pregnancy outcome related to young maternal age? A study of teenagers in Estonia during the period of major socio-economic changes (from 1992 to 2002). European Journal of Obstetrics & Gynecology and Reproductive Biology. 2007 Mar 1;131(1):45-51.

[61] Paranjothy S, Broughton H, Adappa R, Fone D. Teenage pregnancy: who suffers?. Archives of disease in childhood. 2009 Mar 1;94(3):239-45.

[62] Neelofur-Khan D, World Health Organization. Adolescent pregnancy [electronic resource]: unmet needs and undone deeds: a review of the literature and programmes.

[63] Marrying too young: end child marriage. New York, NY: UN Population Fund; 2012.

[64] Punjab Thalassaemia Prevention Programme. Overview. https://ptpp.punjab.gov.pk/ (accessed 27 November 2018)

synchronized and linked with other programs which deal with diseases that are transmitted through blood. Such provisions will allow thalassemia patients for care in case any other disease is transmitted. Health cards to thalassemia patients should be made available to cover the cost of all services. The role of psychologists and physiotherapists must be understood in depth and utilized thoroughly.

2. Preventive Health Services including Communicable and Non-Communicable Diseases

With the economic development in Pakistan over the years, the changing lifestyles have resulted in a transition in the health profile of the population. According to World Health Organization (WHO) under 5-year mortality is 86 per 1000 live births. Maternal and Child health and infectious diseases have been the top priority for a decade[65]. During the last decade, there has been a gradual shift from communicable to non-communicable diseases (NCDs) such as cardiovascular diseases (including stroke and heart disease), diabetes, mental health disorders, cancers, and chronic airway diseases[66]. Pakistan is the sixth most populous country in the world, but a country in which close to 80 million of its individuals (approximately 50% of the population) suffer from one or more of these chronic conditions. Death due to NCDs now far outnumber deaths due to communicable disease. The Global Burden of Disease 2010 data suggests that NCDs and injuries account for 77% of age standardized deaths in Pakistan[67]. The burden in terms of disability is also tremendous and mostly attributable to stroke and injuries. The rising trend of non-communicable diseases poses a threat to an already high proportion of morbidity and mortality rates from communicable diseases; this has been estimated to be 50%[68] of the deaths in total. Figure 27.

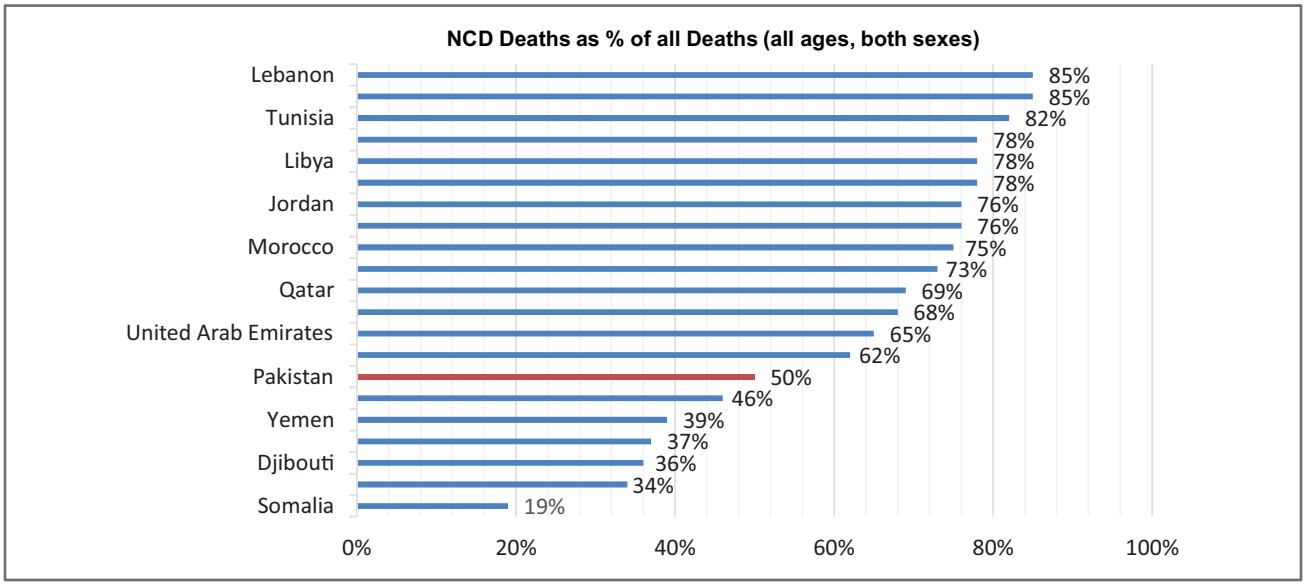


FIGURE 27: GLOBAL STATUS REPORT ON NON- COMMUNICABLE DISEASES 2014 – SOURCE: WHO

[65] UNICEF Report. (Online) (Cited 2014 May 14). Available from URL: http://www.unicef.org/sowc2014/numbers/documents/english/EN-FINAL%20FULL%20REPORT.pdf.

[66] Jafar TH, Haaland BA, Rahman A, Razzak JA, Bilger M, Naghavi M, et al .Non-communicable diseases and injuries in Pakistan: strategic priorities. Lancet 2013; 381: 2281-90.

[67] Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet 2012; 380: 2095-128.

[68] NCD Country Profiles 2014 – WHO

Preventive healthcare is an essential prerequisite of a health system which is quick to respond to the needs of the inhabitants, but at this point in time, it is not being appropriately focused and lacks multi-sectoral collaboration which is critical for the achievement of comprehensive health and well-being. Departments like Food, Water and Sanitation, Agriculture, Municipal government, Local government, Education, Livestock, Environment, Social welfare, Media, and private sector carry out their activities without the active engagement of the health department and at the same time, role of health department to actively engage all the relevant stakeholders and sectors in preparation of 'Healthy Public Policies' is not significant. Both Health departments in Punjab have to play a very proactive role to advocate and sensitize all sectors to put health on their agenda before designing of any policy/program and intervention. A multi-sectoral committee chaired by the CM having ministers and secretaries of the relevant sector along with technical people need to be notified to address the bottlenecks for provision of quality health services to the population.

Cardio-metabolic diseases [diabetes, hypertension, obesity, etc.] require special mention as these occupy the highest position in the NCD agenda based on disease burden, contribution to premature mortality and implications for health systems. Research in these areas in the context of Punjab and in the overall context of Pakistan is deficient and requires due importance to understand the pyramid of disease structure in the country and province context. Moreover, a deeper study of these shall come under the purview of a holistic Burden of Disease Study, which is highly recommended and has not been undertaken in Pakistan.

More than 12 million people of Pakistan are either carrier of HCV or HBV. Regarding HIV in Punjab, the prevalence of HIV among high risk groups was predominantly high, particularly in PWIDs (People Who Inject Drugs) was 38.4% (95% CI; 37.9, 38.9) [un-weighted prevalence 20.9% (95% CI: 19.7, 22.2)]. Among top four (4) districts for HIV prevalence in PWIDs; two (2) are from Punjab namely Kasur (50.8%) and Bahawalpur (25.1%)[99].

According to WHO, Pakistan accounts for 61% of the TB burden in the Eastern Mediterranean Region. Among high burden MDR-TB countries; Pakistan ranks at 6th position in the world. The Incidence Rate is estimated at 268 (174-383) per 100,000 population. Estimated incident of RR/MDR cases accounts for 15,000 (12,000–18,000) [100],[101].

Quality health service regarding screening, testing and treatment of communicable diseases like TB, Hepatitis, HIV/AIDS etc. should be made available at all levels of HFs as per EPHS and MSDS. Non-communicable Diseases (NCDs) significantly contribute to the mortality. At present, NCDs account for 58% of the total deaths in the country. The risk for premature death between 30-70 years of age remains at 25%[102]. Focus on the prevention and control of both communicable and non-communicable diseases must be enhanced.

Due to lack of awareness and understanding, Dementia remains overlooked even with the increasing number of dementia patients. Dementia leads to negative financial impact on caregivers, families and societies. There are no geriatric service units in the country.

[69] Integrated Biological & Behavioral Surveillance in Pakistan 2016-17. National AIDS Control Program. 2nd Generation HIV Surveillance in Pakistan; Round 5.
[70] WHO Global TB Report 2017.
[71] The World Bank. Pakistan. https://data.worldbank.org/country/pakistan (accessed 18 November 2018).
[72] World Health Organization – Non-communicable Diseases (NCD) Country Profiles-Pakistan, 2018.

Eye health is another less served area and needs responsiveness due to double burden of disease. In primary healthcare setting, the eye problems are frequently reported and even in surgical settings, they are frequently operated. School going children have refractive errors, most of which are uncorrected. This affects their school performance and results in many children being out of school. PSPU has revitalized School Health & Nutrition Supervisors (SHNSs) Program in collaboration with "Education Department" for effective screening of health and nutrition status of school children in all public sector schools of Punjab.

Policy-makers have come to believe that it is essential to support the revitalization of Primary Healthcare (PHC) in order to restore more sense of direction and integrity in the current fragmented context of health systems. They also believe investing in PHC-based reforms lead to the sustainable development of health system and leads to the achievement of better and more rationally distributed outcomes (WHO, 2008). This valuable point has led health system policy-makers across the world to seek an effective model for providing PHC (Montegut et al., 2004). The principles of Family Medicine (FM) have turned this discipline into a constructive and integrated part of PHC around the world (Montegut et al., 2004; World Bank Group, 2007). Various studies demonstrated the association of FM with better health outcome even in states with poor equality in health (Maeseneer & Flinkenflögel, 2010; Voort et al., 2012). For this reason, FM has become a core discipline of providing PHC with a long history in developed health systems and being one of the major reforms in developing health systems in the recent decades (Saltman et al., 2005, Kringos et al., 2010; Masic et al., 2014; Oleszczyk et al., 2012). Punjab can learn from these experiences and devise a model of practice of Family Physicians.

Disease Control Priorities Network (DCPN), funded in 2010 by the Bill & Melinda Gates Foundation is a multi-year project managed by University of Washington's Department of Global Health (UW-DGH) and the Institute for Health Metrics and Evaluation (IHME). UW-DGH leads and coordinates two key components to promote and support the use of economic evaluation for priority setting at both global and national levels. Packages, Platforms and Policies DCP3 defines packages of interventions as conceptually related interventions -for example, those dealing with cardiovascular disease or reproductive health or surgery. An objective of each DCP3 volume was to define one or more essential packages and the interventions in that package that might be acquired at an early stage on the pathway to UHC. The essential packages comprise interventions that provide value for money, are implementable and address substantial needs. Platforms are defined as logistically related delivery channels. DCP3 groups EUHC interventions within packages that can be delivered on different types of platforms. The temporal character of interventions is critical for health system development. Patients requiring non-urgent but substantial intervention-repair of cleft lips and palates is an example—can be accumulated over space and time, enabling efficiencies of high-volume in-service delivery. Urgent interventions, which include a large fraction of essential surgical interventions, are ideally available 24/7 close to where patients live—with important implications for dispersal of relevant platforms and integration of different services. Non-urgent but continuing interventions to address chronic conditions (for example, secondary prevention of vascular disease or antiretroviral therapy for HIV– positive individuals) provide a major and quite distinct challenge. One new product of DCP3 has been to explicitly categorize all essential interventions into one of these three temporal categories and to draw relevant lessons, including concerning cost, for health systems. In total, 71 distinct and important inter-sectoral policies for reducing behavioral and environmental risk were identified and 29 of those were identified as candidates for early implementation. In addition to inter-sectoral policies, DCP3 reviews policies that affect the uptake of health sector interventions (such as conditional cash transfers) and the quality with which they are delivered (Peabody and others 2018).

2.1 Recommendations by Technical Experts

In order to increase collaboration among stakeholders, development of one health strategy will be adopted. Regular meetings and participation of all stakeholders in all important health efforts will be formalized. To build up commitment formation of a Cabinet Committee for preventive care and formation of Steering Committees within a legal framework will be ensured. To meet international and regional landmarks of immunization refresher trainings of health workforce at all levels will be conducted. Operational research to explore factors of low vaccination demand from the community will be initiated. Establishment of public health labs in North, Central and South of Punjab will be formalized.

For effective control of tuberculosis, collaboration with the private sector through Memorandum of Understandings (MOUs) with the Pakistan Medical Association (PMA), family physicians and different associations of registered practitioners to impart trainings of doctors & paramedics shall be formalized. This shall be backed by an increase number of drug resistant tuberculosis (MDR-TB) treatment sites.

It is well known that Pakistan is one of the last three countries where polio is endemic. As a part of the global polio eradication programme, Pakistan is struggling hard towards achieving polio eradication in the near future. Improvements of quality Polio eradication campaigns with all stakeholders to cover the last mile shall be reinforced.

Taking into account, the gravity of prevailing situation and sources for spread of hepatitis and HIV/AIDS, it is evident that disease burden for these communicable diseases cannot be reduced; until and unless, all relevant stakeholder namely PHC, IBTA, PBTA, EPA, District Administration and Local Government perform a very proactive role. In pursuance of the fact that a legislative regulatory framework governing all relevant stakeholders should be formulated; Hepatitis Act Punjab has been approved in March of 2018. There is a dire need for implementation of regulatory/enforcement mechanism at all levels in letter and spirit, to prevent the spread of this disease.

Although, provincial stakeholders of public sector have done incredible advancements for prevention and control of hepatitis in Punjab but still there is a long way to go in order to eliminate viral hepatitis by 2030, in accordance with Global Health Sector Strategy (GHSS) on viral hepatitis of WHO. Involvement of private sector is an essential requirement to enhance the outreach in community and strengthening/up-scaling volume of service delivery. Need of the hour is to develop synergies between public and private sector so that desired outcomes can be achieved by use of minimal resources. Furthermore, a well-defined mechanism for service delivery in terms of MoUs, SOPs and protocols should be made available to all concerned stakeholders, so that a uniform Public-Private Partnership (PPP) model may be adopted with a holistic approach.

Also, for all communicable and non-communicable diseases, a comprehensive provincial data repository must be developed which should incorporate data/information from private sector as well. Consolidated data and information sharing with academic and research institutions should be emphasized to promote a culture of research and evidence-based decision making for policy makers.

In order to drive down mortality by non-communicable diseases (NCDs), development of the NCDs surveillance system, cancer registry system and awareness campaign based on standard Behavior Change Communication (BCC) regarding modifiable risk factors will remain under focus. Research would be promoted on NCDs trends and associated risk factors disaggregated for gender and geographical prevalence so that, effective preventive and curative health policies can be put together.

Health policy shall articulate Dementia plan to incorporate dementia awareness activities, dementia friendly communities, risk reduction through healthy lifestyle, and social support services through day care centers. Clinical component of plan will include treatment guidelines, improvement in medical care and dementia screening clinics. Research and development component shall further strengthen dementia disease surveillance system and costing studies.

Efforts should be made to eliminate trachoma as a communicable and neglected tropical disease. Special attention would be given to the eye diseases like glaucoma and diabetes retinopathy that require longer care. Policy would lead to human resource improvements and existing health information pathways at first level healthcare facilities for early detection of eye problems. Present health policy would adopt three recent World Health Assembly resolutions. Health eye policy will subsequently lead to financial risk reduction to the people with impaired vision.

In response to the current fragmented context of health systems, it is essential to support the revitalization of primary healthcare in order to provide a stronger sense of direction and integrity. Around the world, the concept of Family Medicine and Family Physicians has recognized as a core discipline for strengthening primary healthcare setting. The development of referral system, better access to healthcare and the management of chronic diseases recognized family medicine as a viable mean for a series of crucial reforms in the face of the current challenges of health system. Implementation of family medicine has strengthened the PHC model in urban areas of countries like Iran. Attempting to create a general consensus among various stakeholders is essential for effective implementation of the concept in Punjab after formal research and deliberations.

High quality primary health care depends on the availability of well-trained general practitioners or family physicians as members of healthcare teams in the community. To this end, ministries/departments of health and the World Health Organization should adopt policies that will increase the number of trained physicians in general/family practice. Such policies will involve placing greater emphasis on primary medical care in medical schools, creating better opportunities for postgraduate training and research in general/family practice, and providing greater incentives for new graduates to choose a career in general practice. Medical schools should make the teaching of primary medical care an integral part of the curriculum and establish or support strong postgraduate programmes in general practice/family medicine. With the aim of encouraging the training of more general practitioners/family physicians, this document outlines their role in the healthcare system and the knowledge, skills and attitudes required.

The general practitioner or family physician is the physician who is primarily responsible for providing comprehensive healthcare to every individual seeking medical care and arranging for other health personnel to provide services when necessary. The general practitioner/family physician functions as a generalist who accepts everyone seeking care whereas other health providers limit access to their services on the basis of age, sex and/or diagnosis. The general practitioner/family physician cares for the individual in the context of the family and the family in the context of the community, irrespective of race, culture or social class. He/she is clinically competent to provide the greater part of their care, taking into account the cultural, socioeconomic and psychological background. In addition, he/she takes personal responsibility for providing comprehensive and continuing care for his/her patients. The general practitioner/family physician exercises his/her professional role by providing care either directly to patients or through the services of others according to the health needs and resources available within the community he/she serves[73].

The 9 volumes of DCP3 lay out a total of 21 essential packages. Each essential package addresses the concerns of a major professional community (e.g., child health or surgery) and contains a mix of inter-sectoral policies and health sector interventions. A total of 71 evidence-based policies with powerful potential to improve health were identified across multiple non-health sectors, such as implementing large excise taxes on tobacco products or installing traffic calming measures to reduce road traffic accidents. Interventions within the health sector, allocated across five platforms, comprise a suggested model of essential Universal Health Coverage with 218 interventions that provides a starting point for country-specific analysis of priorities. It is recommended that P&SHD and the SH&MED may through this knowledge hub start researching in the Punjab context and put up recommendations for the Government in strategizing on parameters identified through this continuous research.

3. Patient Safety and Quality of Care

Patient safety is the cornerstone for the high-quality healthcare. The primary and most fundamental step in bringing substantial and measurable improvement in the quality of healthcare is describing and enumerating the problem on low-quality of care along with poor patient safety care. The WHO global report on evidence on patient safety reveals that one (1) in ten (10) patients are harmed in hospital care, between 5.7 and 8.4 million deaths occurring annually from poor quality care, fourteen (14) out of every hundred (100) patients are affected by Healthcare Associated Infections, two percent (2%) patients are subject to surgical complications for the two hundred and thirty-four (234) million surgical operations performed every year, between twenty to forty percent (20-40%) health spending are wasted due to poor quality of care and safety failures and approximately fifteen (15%) of hospital costs being due to patient harms caused by adverse events[74],[75]. Factors such as poor clinical practices, insufficient client safety systems as well as lack of data and patient feedback mechanisms on the quality of care received in any healthcare facilities, collectively are wider determinants of low-quality healthcare.

[73] Primary Healthcare and Family Medicine at the Core of Healthcare: Challenges and Priorities in How to Further Strengthen Their Potential Chris van Weel

[74] World Health Organization: Summary of the Evidence on Patient Safety: Implications for research. 2008, Geneva: World Health Alliance for Patient Safety

[75] World Health Organization. 10 facts on Patient Safety. https://www.who.int/features/factfiles/patient_safety/en/ (accessed 18 November 2018).

In Punjab, there are organizations/institutions that are working at macro level for improved quality of care. Included in these, is the Punjab Healthcare Commission with a mandate to develop and implement Minimum Service Delivery Standards for healthcare across Punjab - at both, Public and Private sectors. Nevertheless, the impact expected from this regulatory authority is more than currently visible. Hence it may safely be stated that still the private sector remains an autonomous unregulated sector. Blood Transfusion Authority (BTA) is independent and autonomous in performing a key role in guiding the overall development of the Blood Transfusion Services and regulating the transfusion system on the internationally accepted blood transfusion system models. BTAs are responsible for implementing the Blood Safety Laws. However, at present this regulatory authority is not exercising its control to the fullest potential, therefore warranting adherence to regulation and laws is imprecise. At present, most of the blood banks in public and private sector have not been using WHO accredited testing devices for screening of blood borne diseases.

The Infection Control Program P&SHD, is a program which recently accelerated services in Hospital Waste Management, Healthcare Associated Infection (HAI) and Antimicrobial Resistance. However, the scope of this program is limited to public healthcare facilities at primary and secondary level only. Pakistan Nuclear Regulatory Authority has a mission to ensure the safe operation of nuclear facilities and protect the radiation workers, general public and the environment from the harmful effects of radiation by formulating and implementing effective regulations and building a relationship of trust with the licensees and maintaining transparency in actions and decisions taken by the regulatory body.

At Meso Level, a complete healthcare infrastructure exists that needs strengthening to ensure quality standards are met including compliance of accessibility Codes at all healthcare facilities for the person with disabilities, as this has been the most neglected area. The healthcare professionals are not sensitized to importance of quality of care. At the micro level, the issue of ratio of healthcare workers, according to WHO and OCED standards are applied.

There are existing laws alluding to quality and patient safety in Punjab, regardless how well they were designed the status of quality represents neglected implementation. The prevailing laws/acts include:

- Communicable Disease Act 1952
- Punjab Environment Protection Act 1997
- Punjab Healthcare Commission Act 2010
- Hospital Waste Management Rules 2014
- Punjab Blood Transfusion Safety Act 2016
- Punjab Hepatitis Control Act 2018

Challenges

Like all other areas of healthcare, quality and patient safety has roadblocks as well. The current challenges in ensuring quality assurance and improvement are many. Some that came out from consultative meetings were:

- Lack of effective clinical governance
- Lack of inter/intra sectoral approach
- Lack of enforcement/implementation mechanisms
- Lack of qualified and appropriate ratio of Health Workforce and poor resource allocation
- Lack of an effective monitoring framework
- Lack of quality of care framework and national performance indicators
- Lack of curriculum about quality and safety
- Lack of change management addressing the implementation gap
- Non-Compliance of accessibility Codes at healthcare facilities for the person with disabilities

Urgent actions are needed to mitigate the negative effects on individuals, healthcare facilities and Punjab as a province, that are generated due to low quality of care.

4. Medicines and Biomedical Equipment

Issues in supply chain management and lack of quantification skills among the facility staff, cumbersome procurement process, shortage of trained staff on procurement related matters, budget constraints, inadequate storage capacities and delayed supplies are the major reasons for the regular stock outs of essential medicines at public sector health facilities. Mismatched supply results in either excess of a specific medicine or the shortage of another. Another issue includes the sale of medicines at points other than licensed pharmacies. These points include small convenience stores, as well as, larger departmental stores. This illegal sale of medicines promotes substandard and falsified (SF) medicines.

Drug Regulatory Authority of Pakistan (DRAP) is a newly created regulatory body and is still in its infancy. It faces the issue of technical and HR incapacity. Efforts have been made to standardize the process of product by introducing the Common Technical Document as part of the application requirements. However, the implementation of Good Manufacturing Practice is still an issue that requires attention. Alternate measures have been taken to ensure access to safe, quality assured medicine, for multisource generics especially in the absence of bioequivalence requirements for generics product registration.

Serious issues with Medicine Regulatory System in the province are due to:

- Inadequate staff
- Lack of training and continued professional development along with motivation

- Lack of competency framework for pharmaceutical services
- Lack of proper equipment
- Inadequate implementation of existing laws

Large quantities of Sub-Standard/Out of Specification (OOS) Medicines are being supplied in the market as well in the public hospitals. Further, the alternative medicines used by Hakims and Homeopaths are also not properly regulated which results in the availability of substandard medicines to patients.

Revision of National Essential Medicines List (NEML), as per WHO model list, has just started recently after a long gap, but even with this revision, a consultative process was adopted wherein key stakeholders were not involved. The same list (NEML) was adopted by the provinces and is used as the basis for new procurement.

The problem is further compounded as it becomes very difficult for the regulatory bodies and medicine inspectors to track down medicines back to the manufacturer or recall medicines from the market as proper supply chain methods are not followed and records are not maintained. Furthermore, storage capacities at district levels and in hospitals is either non-existent or insufficient. Medical Store Depots (MSDs) are also not available in every district of Punjab.

Excess morbidity and mortality/ treatment failures is a serious problem which leads to non-satisfaction of patient even after huge expenditures. These are mainly due to:

- Adverse Medicine reactions (ADRs),
- Medication errors,
- Defective products,
- Absence of Clinical decision support system (CDSS),
- Transcription errors (Absence of Physician order entry POE)
- Overdose and under dosage,
- Incompatibilities in treatment and prescription
- Irrational use of medicine and Antimicrobials (leads to AMR)

Bio medical equipment is in a similar situation or probably much worse. The issues are as follows:

- No standardized list as per the use in various types of facilities
- Standard specifications were issued by tertiary health department but are not used throughout the province, no institutional memory at all.

- Even these specifications are not continually updated as per the latest trend.
- Various initiative was taken to inventory biomedical equipment throughout the province including BERC, progress has been made for DHQs but THQs, BHC and RHCs still have to be tagged. Teaching Hospital were not in the purview of BERC hence no progress was made.
- Maintenance activities are very minimal due to unavailability of parts (budget constraints) and trained personnel.
- Although efforts were made to hire biomedical engineers throughout the province, but no training was provided to these engineers for procurement related activities and or maintenance (periodic and corrective) hence, the results were not fruitful.
- Also, the ratio one engineer in one district or even less in not enough to cater to the biomedical equipment load in the province.
- Until recently, medical devices and biomedical equipment in general were unregulated in Pakistan, hence, there are issue with standardization of equipment in terms of quality.
- Comprehensive service contracts are not done for all major equipment in healthcare facilities, hence the equipment is underutilized due to breakage and no proper maintenance.
- A lot of equipment is old and needs to be replaced.

4.1 Recommendations by the Technical Experts

4.1.1 Medicine

The strength of the pharmaceutical sector lies in its capability to provide access to affordable and quality medicines that are safe and appropriately used to meet population needs. This depends in large part upon having a competent workforce that is equitably distributed to provide pharmaceutical services. A framework of competencies for pharmacists will be developed that defines the core tasks in eight key pharmaceutical service areas. The eight key pharmaceutical service areas are pharmaceutical policy and planning, pharmaceutical rules and regulations, quality assurance systems, clinical pharmacy/pharmaceutical services, procurement, supply chain, medicine distribution in private pharmacies and to hospital outpatients, and hospital inpatient dispensing.

Furthermore, there is need to rejuvenate Pharmacy and Therapeutic Committees (P&TC) at teaching Hospitals, DHQs and THQs to make the formulary along with morbidity-based quantification. There should pooled procurement with a Long-term rate contract (Annually or biennial) after stringent prequalification based on WHO guidelines for product quality. Decentralized Procurement for prequalified products at central rate contract should be carried out as per the need of the healthcare facility - this would have already been quantified at the time of selection in P&TC. Capacity building of all entities in the procurement team is necessary in order to ensure the smooth supply of medicines and health products along with transparency and traceability. Additionally, there should be a web based Integrated Inventory Management and Information System (IIMSIS). For the first year, this should run in parallel with manual stock registers enabling smooth monitoring and recall or transfer of medicines to or from respective health facilities. The National Quality Control Laboratories should be WHO Prequalified and a risk based GMP categorization (high risk or critical, Major or moderate risk and low or minor risk) of Pharmaceutical industry should be done based on WHO guidelines and Technical report series (TRSs).

The Pharmacy & Therapeutic Committee (P&TC) should headed by Senior most Professor of medicine and must include members from all major clinical specialties including Pharmacy and Nursing. The Chief Pharmacist should be appointed as the secretary of committee. This will a high-powered committee which will approve treatment protocols, guidelines, policies, hospital formulary (Based on NEML), approve non-formulary prescription, devise protocols for medicine use and evaluation and review medicine as per standard TORs. All such formularies shall be consolidated in the form of the Punjab Medicine Formulary. Such committees shall also ensure unit dose dispensing and prescription review in their relevant institutions.

Provincial government shall extend full support for the implementation of 2D Data matrix and centralized supply chain monitoring software initiated by the Drug Regulatory Authority of Pakistan (DRAP). The provincial government, with the support of the federal government, shall monitor the availability of medicines, carry out risk based, post marketing surveillance for quality of medicines and ensure a viable pricing policy to reduce the number of orphan medicines that have been rendered financially unviable for manufacturers. Appropriate regulations shall enforce schedule G regarding the sale of therapeutic goods which requires graduate pharmacists to supervise the sale of medicines that need special care. Unauthorized sale points should also be dealt with through strict monitoring by the relevant enforcement agencies. There is an urgent need to promote actions to increase the number of pharmacists per hospital bed within the province to establish pharmacy services at all health facilities with inpatient facility. There is also a need to restructure medical store depots (MSDs) on modern lines and create a network of MSDs in all districts as per part of supply chain management as a priority. It is suggested to adopt integrated Vaccine Logistics Management Information System (VLMIS), and integrated warehousing following WHO guidelines on Good Warehouse Practices (GWPs) and Good Storage Practices (GSPs) along with Good Distribution Practices (GDPs).

4.1.2 Biomedical Equipment

Drug Regulatory Authority of Pakistan (DRAP) shall be pursued for the registration of all biomedical equipment, their suppliers and the manufacturers at the earliest. Standardized list of equipment should be devised as in the case of medicines for every level of health facility including specialized hospitals. WHO has already devised such a list along with its Global Medical Device Nomenclature system (GMDN). Efforts should be made to inventory and tag all equipment in all levels of the healthcare facility. These Inventories can be managed individually and linked with the Health Management Systems for large health facilities and/or through BERC in case of DHQs, THQs, RHCs and BHUs. Data from the Inventories shall play a crucial rule for all procurement (new and disposal) and maintenance related activities. Ideally, an Inventory Management System should be used. The inventory management system can also identify frequently used parts of the equipment that can then be budgeted every year at the start and hence no delays should occur in maintenance due to unavailability of parts.

Procurement is a crucial subject in the case of biomedical equipment. Efforts should be made to build capacity of the personnel involved at central or individual levels. Ideally, procurement records should be digitalized and linked with inventory management system, so it is automatically updated in terms of new procurement. Development of standards for regulation of biomedical equipment after vigilant technology assessment shall be ensued. Centralized rate contract should be done on yearly basis. Warehousing

(centrally, hospital level and on district level) should be done as per GSPs and GWPs. An effort shall also be made to replace obsolete equipment with new technology on regular basis. All new major equipment should be bought with at least a five-year comprehensive service contract with parts (95% uptime) to cater to all the maintenance (preventive and corrective) needs. Service and User training from OEM should be made mandatory for engineers and users in the health facilities.

Maintenance records shall also be linked to the inventory records so that functionally of the equipment is also recorded along with the availability. These maintenance records should keep a log of all maintenance activity (periodic and corrective) for every equipment. In order to ensure first level maintenance, biomedical engineering setups shall be established in all health facilities and support should be given to small centers through main and mobile workshops in various regions. In order to establish biomedical engineering staff, new biomedical engineers and technicians must be hired, while the existing staff should also be trained through OEM and specialized maintenance training programs. Trainings should be an ongoing process to build a base of maintenance engineers for the province.

Institutional knowledge should be used with regard to standardization of specifications and different committees should be made for every specialty to update these specifications according to the latest needs and technologies at least annually.

5. Health Management Information System

Overall information system in the province is fragmented as there is no mechanism for integration of information whether coming from DHIS, vertical programs or from any other source at district level and also at the provincial level. Resultantly; evidence based, and informed decision making is far from reality. Standardized mechanism for regular reporting from the tertiary hospital is also lacking, Similarly, data from private sector is not being captured which deliver healthcare services to a larger proportion of population in Punjab. Although, there is a dashboard for Disease Surveillance system and Disease Early Warning System (DEWS) which was prepared in collaboration with PITB, but it has poor implementation and integration. Further, there is no inclusion of private sector for establishing an extensive disease surveillance mechanism in the province.

There is no structured mechanism for the *Civil Registration* and *Vital Statistics* (CRVS) which plays a highly fundamental role in planning and monitoring of public health outcomes and its impact in diverse policy domains. A well-functioning CRVS system records all deaths and births, along with other details, taking place at the health facility and out of health facility. Currently, the registration of births and deaths is critically low. Though, there is a record of total births taking place at a particular health facility is there but other accessory details are missing to analyze the data to generate some evidence. Similarly, the data of deaths that occur at primary, secondary, and tertiary healthcare facilities does not entail any information about cause of death (Table 28).

TABLE 28: BIRTH & DEATH REGISTRATION (DHIS DATA REPORTED DURING JANUARY TO DECEMBER 2018)

Sr. #	Indicator	PHC (BHU, RHC etc.)	Secondary (DHQ, THQ & Civil Hospital)	Teaching Hospitals
1	Live Births in the Facility	793,919	252,092	207,111
2	Total Deaths in the Facility	2,475	30,927	122,802

The number of births that are registered do not reflect the projected growth rate of Punjab. Due to non-availability of death registration, there is no scientific mechanism to know the cause of death and patterns of morbidity and mortality. The minimal data available is not accurately stratified and is insufficient for analysis and policy formulation. The same information is also not being shared with other relevant stakeholders like Local Government and NADRA.

The government of Punjab has nominated Policy & Strategic Planning Unit (PSPU), Primary & Secondary Healthcare Department as the Focal Unit for dealing with "Health Dimension of Civil Registration and Vital Statistics (CRVS)."

PSPU has drafted a uniform and universal electronic "death slip/ certificate" as per international protocols, after consultation with stakeholders from public and private sector for all Health Facilities across Punjab. The cause of death on this certificate will be entered as per international ICD-10 coding. The electronic data, thus retrieved, will be utilized to analyze, deduce, and project patterns of morbidity and mortality.

In addition to the above-mentioned challenges, there is no mechanism for central storage of data at the provincial level although several surveys and research studied are being conducted every year. Health related research in the province is yet not catering to the research and information needs of the province. Research infrastructure in the province is poorly developed due to lack of expertise, resources and incentives. There is no well-organized documentation and structured public dissemination mechanism to showcase the performance of health sector on the basis of information collected through DHIS.

5.1 Recommendations by the Technical Experts

With the intention to improve healthcare delivery, integrated information system along with integrated dashboards based on selected KPIs has to be developed, additionally, data-driven surveillance and response system must be established. This will not only lead to improved monitoring and efficiency of healthcare delivery but also reduce the cost avoiding duplication of efforts and resources. Data gathering of private healthcare delivery, referral system to track patient history on pre-designed reporting templates under legal framework shall be ensured. Data need to be made available to the universities and researchers to conduct research from the provincial repository to promote a culture of research in the province.

6. Health Governance and Accountability

Primary & Secondary Healthcare Department (P&SHD) and Specialized Healthcare and Medical Education (SH&MED) were headed by two provincial secretaries who used to report to their relevant health ministers since the previous regime. At present, there is one minister heading both the departments, having their individual secretaries. Both departments are overstretched in managing service delivery across the province and playing their role in policy making, planning, resource allocation, responses to emerging situations and leading government's priority program. There is fragmented data to guide implementation of health policy, weak monitoring of outcomes and response to emerging situations. Due to weak institutional capacity to orchestrate, implementation of health policy through decentralization and autonomous entities is another bottleneck.

Punjab Medical and Health Institutions Act 2003 is also not put into practice in true letter and spirit. Though, each medical university is governed by separate Act, but medical universities are not completely autonomous. Although, different regulatory bodies e.g. Pakistan Medical and Dental Council (PMDC), Pakistan Nursing Council (PNC), Punjab Medical Faculty (PMF), Tib Council, Homeopathy, Pakistan Pharmacy Council are operational in the Punjab but are not truly functional. Regulation of healthcare delivery remains weak in Punjab in the absence of well-developed regulatory framework and limited outreach of regulatory bodies.

Unions of medical professionals are very active and protect the rights of their members often at the costs of protests which lead to disruption of service delivery to the patients. Ambiguous legal underpinning of health and public health activities exist within the province. Medical education also faces challenges due to outdated curriculum, high faculty student ratio, and variance in undergrad training. Modern pedagogical practices are rarely adopted as well as faculty development is lacking.

The present health policy provides setting for financial and administrative autonomy to medical universities and institutions which abide by a single promulgated Act. Under the present devolution program autonomous district health authorities shall emerge. Compulsory rotation in primary and secondary care for all new inductees is strongly encouraged. Promotion of doctors will be streamlined through structured patterns. PMDC, PHC shall follow more rigorous functional role in order to run their regulatory role. Regular consultative meetings with these regulatory bodies, unions of health personnel to resolve disputes and make them accountable shall remain under interest. Separate research budget to support existing research institutes and establishment of new research centers and incentives for research e.g., E-library shall be introduced. Public Health Act which provides an umbrella and elucidates ambiguous areas shall remain driving force under the present health policy. Revamping of the medical curriculum, post-graduate education system and implementation of CME shall also be set off.

There is a serious lack of capacity to produce nurses and allied health professionals and this further aggravates the poor availability of skilled human resource in difficult areas. Accountability for performance suffers due to absence of appropriately delineated processes and data. Lack of standardized procedures for internal means of supervision and control, minimal information provision to the public, protection of government decision and processes from critical scrutiny are the key weaknesses leading to corruption. Traditional public accountability mechanisms such as expenditure audits and legislative reviews seem unequal to the task of ensuring accountability at the micro level.

Institutional and individual performance remains obscure in Punjab and incentives for performance are consequently affected and remain weak. This in turn adversely affects institutional and individual performance towards achievement of health goals. Perks and privileges system play a factor in corruption in many ways. There are significant differences between the benefits of the same grade in different postings leading to political interference and corruption through influence.

Lack of community participation and community empowerment for improvising the quality of health services at all level is almost missing. Health committees at all level need to be notified having representatives from the community to assess the progress and provide periodical feedback for betterment. In addition, District and Provincial Advocacy forums need to be established to share progress and highlight issues at both levels for devising future strategies.

7. Human Resource for Health

The health service system is challenged by lack of proper infrastructure and personnel to meet the increasing demand of a fast-growing population, poverty, illiteracy, and women's low social status. Despite significant investment in the health sector over the years, the health indicators of Pakistan lag behind many regional countries. In urban areas, access is not an issue, but low-quality services remain a concern (Bhatti 2015). The health service system has typically high out-of-pocket payments, low quality publicly financed and poorly regulated privately financed market provision of services, resulting in a mixed health service system (Nishtar 2010). It strongly impacts the lower segment of society, which is compelled to adopt substandard health seeking behavior by approaching “quacks”, low-standard hospitals, self-medication, or even broken up treatment due to acute shortage of consistent funds.

The distribution of healthcare services is focused on large urban centers, while rural urban inequities are more profound (Akram and Khan 2007). Both, primary and tertiary healthcare facilities generally work in isolation and have poor referral linkages between them (Siddiqi 2001). The healthcare model focuses and consumes resources for curative purpose, prevention conversely remains a secondary priority in the government's declining public health spending.

Currently, both P&SHD and SH&MED have dedicated cells (HISDU, HRMIS) containing human resource data working in both departments. Health facility wise data of staff is available through these cells.

Major problems in HR are maldistribution between urban and rural areas, high levels of emigration, low proportion of female medical graduates joining the workforce, inappropriate skill mix relative to needs, and low job satisfaction. There is no reliable information on HRH data leading to significant limitation to workforce planning. Consequently, decision making about health workforce remains reactive and has not been able to account for changing population and health workers' needs.

There is a disparity of focus on various cadres of health workforce. Some cadres receive due priority, whereas a number of other cadres are either ignored or receive little attention. For example, Physiotherapy is not recognized as an autonomous profession as per WHO ISCO 2015. Unstandardized and un-defined yardsticks for physiotherapists hired at all levels of healthcare facilities (primary, secondary, and tertiary) exist. Even physiotherapists are not hired according to their clinical specialties in secondary and tertiary hospitals. There are no physiotherapists at primary healthcare facilities. Poorly resourced physiotherapy departments are present in tertiary care hospitals. Mushrooming of teaching institutions has resulted in placement of physiotherapists in settings without appropriately resourced facilities. Undefined scope of practice between physiotherapists and physiotherapy technicians further compounds the problem. Identically, the health workforce belonging to other allied health services and alternative medical systems are usually unsatisfied and less accommodated in health policies.

The situation is further complicated due to both internal and external migrations. Medical education and clinical practice face issues of standardization and accreditation.

7.1 Recommendations by the Technical Experts

The present health policy shall optimize health workforce availability, quality, and performance. It shall expand educational capacities and infrastructures for increasing the production of nurses and allied health professionals aligned to the provincial needs. Enforce regulation that obligates the medical colleges functioning for over 10 years to establish a nursing college and allied health institution. The policy shall adopt a synergistic approach by directing the local funding both public and private; as well as the bilateral and multilateral agencies contribution for focused investments in education and health workforce development aligned to the provincial needs.

Design and adopt recruitment practices and incentive packages to attract qualified and motivated health workers especially in rural settings. It shall facilitate working conditions that enhance stability, and satisfaction through fair remuneration, career progression, workplace safety, and supportive supervision. Establishment and strengthening the HRH unit in both department for stewardship of all HRH related matters; developing and ensuring compliance to HRH policies pertaining to the employment, regulation and deployment of health workers.

In order to improved collection, analysis, and use of health workforce data for identifying current and future health workforce requirements, monitor trends and the effectiveness of HRH strategic interventions, which is mandatory for an efficient health system. The policy ensures that health workers have access to proper equipment, supplies, and resources that enables them to deliver quality of health services.

In acute shortage areas, the innovative models of tasks shifting and sharing shall be promoted by reviewing the health service delivery model, outlining the skill mix needed for meeting the SDGs and performance assessment.

Health human resource planning is a complex and specialized task requiring focused and sustained attention by a dedicated unit. In the previous Punjab Health Sector Strategy (PHSS-2013-2020) a dedicated Human Resource Planning and Development (HRPD) Unit had been proposed to be developed to perform these functions. It must be an integral part of current structure with additional staff like HRH specialist.

Health policy gives due consideration to the alternative medical system as some patients prefer this form of treatment. Special attention shall be provided to fill the vacant posts and review of existing service structure. An enhancement of need based expansion should be initiated.

The SDGs Priority Actions suggests to Develop health workforce planning on a systematic basis based on estimated future needs and career structures, and incentives for trained workforce l Ensure consistent location/recruitment of appropriate staff across all disciplines for effective disease surveillance at all levels of health systems including, but not limited to, FELTP.

8. Health Financing & Public Private Partnership

The concept of co-operation between public and private provision of healthcare was instituted in Pakistan in National Health Policy in 1960 and started as a model of corporate social responsibility to serve the nation's health needs. Public Private Partnerships (PPP), as they are now called, are a health sector reforms to create long-term, task-oriented and formal relationships among the public and private sectors in sharing their core competency and resources for the provision and enhanced utilization of healthcare services and also to address emerging health challenges.

Pakistan has a mix of public and private health service delivery system. Inter-sectoral cooperation and sector wide approaches are required to achieve the pioneering goals in the years ahead for which, there is a dire need to increase resource allocation, strengthening primary healthcare services and motivating the human resources employed in health sector by good governance. The country's ownership of the SDGs would be a prerequisite for health and development in future.

There is a large private healthcare sector in Punjab, approximately providing more than 60% of healthcare services. Under performance of the public sector healthcare system in Pakistan has created a room for private sector to grow and become popular in health service delivery, despite its questionable quality, high cost and dubious ethics of medical practice due to poor regulatory mechanisms. Private sector has demonstrated a great deal of responsiveness, hence creating a relation of trust with the people who spend out of their pocket to buy 'health' [76].

The private sector is dynamically engaged in majority of healthcare delivery within the province but remains less realized by the public sector. Involvement of private practicing GPs or specialists is realized but not applied in case of emergencies in the public sector. This holds true, especially in rural areas, where patients have to travel a long distance in order to receive adequate care. At the same time, the role of community and civil society in resolving health related issues is negligible.

Medical tourism, already present in the private sector, is not backed by the public sector healthcare delivery systems. Less than 1% of GDP is allocated every year for healthcare delivery, but most of it is not utilized optimally. This gap can be attributed to the lack of training of health managers on financial management.

The establishment of Punjab Health Foundation is a significant initiative and a vital step to actively assist and promote the private sector in providing better, broader and grassroot level health cover. The Foundation was designed to help provide financial assistance in urban and rural areas to individual doctors, promote NGOs, encourage health institutions and allied projects for their establishment and upgrade existing facilities and inputs.

[76] Shaikh BT. Private sector in healthcare delivery: A reality and a challenge in Pakistan. J Ayub Med Coll Abbott. 2015; 27:496-8

8.1 Recommendations by the Technical Experts

Punjab Health Foundation (PHF) will be strengthened to encourage and promote the private sector. Banks should be invited to provide soft loans to health projects in rural and peripheral areas of the province. The Policy shall promote the selection of panel of hospitals for Sehat Card holders and set the premium ceiling in hard areas. A referral pool of private GPs and specialists shall be fashioned through Pay for Performance (P4P) mechanisms in far flung areas.

There is a also time to modify the traditional methodology of providing loans with introduction of innovative funding approaches such as supporting establishment of family health units, sponsoring group practices or partnering the community based fair price health facilities in the urban neighborhoods/localities in order to reduce the mounting burden of patients on the secondary and tertiary care hospitals. Furthermore, training of healthcare entrepreneurship and business development support should be an essential components of loaning process.

Formation of Community Boards to identify healthcare and those indirectly linked with healthcare needs, (e.g., sewage, clean water, waste disposal, healthy food items at district level) to resolve issues locally through PPP. In order to promote medical tourism, marketing carried out through Pakistani embassies for diaspora and ease in Visa issuance for medical treatment in the public sector shall be initiated.

A gradual increase in GDP allocation for health sector remains the center of attention, however, innovative models of Public Private Partnership (PPP) to facilitate healthcare by reducing the financial burden on the public sector shall be explored. Training to the health managers for efficient usage of financial resources shall be imparted.

9. Health Disaster Management and Emergency Medicine

The Provincial Disaster Management Authority (PDMA) was constituted under the NDM (National Disaster Management) Act in 2010. The most important role of PDMA lies in providing a platform for all provincial departments to come together and strategize management and response to disasters and calamities. Unfortunately, the coordination mechanism between key provincial departments including PDMA, Rescue 1122, Civil Defense, District Governments and Police for immediate rescue and rehabilitation operations is very loose and patchy. Linkages with School Scouts and with local and International NGOs and philanthropists is also missing. A formal and well-designed training program for the medics and paramedic in emergency response and disaster management is not available.

9.1 Recommendations by the Technical Experts

It is intended that medical education of all cadres at undergraduate and postgraduate level, should follow international guidelines. Implementation model of clinical governance, clinical audit integrating primary care, pre-hospital emergency care with tertiary care, multi-disciplinary human resource development based upon best practices clinical guidelines and continuous professional development need to be unfolded. Local doctors, nurses, and paramedics are to be trained in advance life supports, who in turn, impart training to the Community First Responder in every village. Ambulance drivers at RHC onward are provided Emergency Medical Technicians (EMTs). Secondary and tertiary care hospitals shall ensure

clinical practice guidelines for trauma and medical emergencies. It is ensured that multidisciplinary response teams do have coordination and lead to continuous professional development. College of Emergency Medicine, College of General Practitioners, College of Health Informatics, University of Allied Health Sciences, Road Safety Authority, and Anti-Quackery teams shall be initialized.

10. One Health

"One Health" is a buzz word getting widely popular in the world. This is old concept but its importance has been realized more in the recent decades. This concept recognizes that human health is directly connected with animal and environmental health because of close association of humans, animals and the environment they are mutually sharing.

The health of human, animals, and the environment is interconnected and intertwined. The health hazard for one species may affect the other specie as well. For instance, smoking is injurious to the health of people as well as pet animals. Similarly, medical technology used to understand the mechanism and treatment of cardiac diseases in human can be applied to other species as well. The environment has also direct impact on the health of all living beings in that vicinity. Therefore, instead of having any piecemeal approach, integrated one health initiative is the need to "promote, improve, and defend the health and well-being of all species." [77]

A healthy individual does not live in isolation. We all have interactions, to different extent, with domestic animals and pets. Deforestation has resulted in fast disappearance of wildlife habitat and change in the climate. Close interaction among people, animals and environment has resulted in the emergence and re-emergence of many diseases. Since, six out of every ten, infectious diseases in humans actually spread from animals. Therefore, a collaborative, multi-sectoral, and trans-disciplinary approach is required to attain optimal health of all living beings. The mutual cooperation among physicians, veterinarians, ecologists, and many others is required to develop a unified approach to control the spread of diseases among people, animals, and the environment. It will also lead to maximization of resources.

Some of the zoonotic diseases, that can spread from animal to humans, include Rabies, H1N1 Influenza, SARS, bovine tuberculosis (TB) and brucellosis. People can become infected with zoonotic diseases by either consuming dairy products or by direct contact with infected live animals or their carcasses. Another known zoonotic disease in Punjab is Leptospirosis. This disease is transmitted through soil and water contaminated by the urine of infected pets and wild animals. Crimean-Congo hemorrhagic fever (CCHF) is another zoonotic disease that has travelled to Punjab from other parts of the world. Annually, a number of mortalities are reported due to this disease which mostly affects farmers or people living in close proximity to domestic animals.

Intensive farming, deforestation and environmental degradation has resulted in the emergence of a condition "SMOG" in Punjab. Burning of crop stubble, garbage, emission from industries and vehicles add to the air pollution resulting in a condition called Smog. This condition is alarming public health concern and directly impacts the human health by causing acute respiratory tract infection, exacerbation of asthma, allergies, eye infection and other cardiac issues leading to premature death[78].

[77] One Health Initiative website. Mission statement. Available at: http://onehealthinitiative.com/mission.php.
[78] Blood pressure and particulate air pollution in schoolchildren of Lahore, Pakistan. Sughis M, Nawrot TS, Ihsan-ul-Haque S, Amjad A, Nemery B. BMC Public Health. 2012; 12:378.

Environmental Health comprises those aspects of human health, including quality of life, that are determined by physical, biological, social and psychological factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect the health of present and future generations.

The recent studies have estimated that the annual cost of environmental degradation in Pakistan is around Rs. 365 Billion (three hundred and sixty-five billion) or at least six percent (6%) of the GDP[79].

The three most significant causes of environmental degradation have been identified as:

- Air Pollution (Indoor and Outdoor air pollution makes up fifty percent (50%) of the total damage) results in the Acute Respiratory infections and premature mortality.
- Inadequate Water Supply, Sanitation and Hygiene (accounts for thirty percent (30%) of the total damage) causes seventy (70%) of water borne and diarrheal diseases and typhoid.
- Soil Degradation (accounts for twenty percent (20%) of the total damage) results in reduced agricultural productivity and food availability.

While environmental hazards and risks are responsible for an overall twenty-four percent (24%) of the total burden of diseases in the WHO's Eastern Mediterranean Region, the estimates for the Group 3 countries of WHO/EMRO (which includes Pakistan) may reach up to thirty-five (35%) of burden of disease (BOD), especially in women, children and elderly who are at the greatest risks. WHO's global studies indicate that twenty percent (20%) of all cancers and sixteen percent (16%) of all cardiovascular diseases are attributable to environment, and that action on these factors is cost effective as well as, can result in reduction and prevention of environment related BOD. According to WHO estimates of 2008, the total deaths attributable to environmental factors per hundred thousand (100,000) population in Pakistan is two hundred (200).

Pakistan is facing constraints in improving health outcomes as a result of many factors however, traditional environmental risk factors (e.g. water, sanitation, hygiene, air pollution, food and chemical safety, etc.) and emerging environmental issues (e.g. climate change, noise pollution, etc.) are playing a vital role in contributing heavily to both communicable and non-communicable burden of diseases.

Adding more to the grave situation is the issue of improper healthcare waste management. On an average, twenty-nine (29) tons of infectious waste is generated daily in Punjab. Due to lack of proper, safe and secure waste management, the entire healthcare waste is mixed with residential solid waste and co-disposed in open dump sites and are sometimes burnt. Such unregulated system and procedures are causing health and environmental damage to air, land and water.

[79] World Bank Report 2013

The major bottleneck towards environment safety as identified in consultative meeting were:

- Institutional and governance weaknesses (community, union council, tehsils and district level governments)
- Lack of involvement of all stakeholders that hampers environmental protection, improvement and sustainability.
- Lack of proper Healthcare Waste Management

One of the SDGs priority actions suggests to strengthen and further built upon the already existing coordination mechanisms for active disease surveillance, and outbreaks and emergency response under "One Health" approach based on the provincial list for notifiable diseases which should be updated on regular basis. Ensure adequate and appropriate response to chemical hazards in this highly industrialized and agriculture dependent province with heavy use (and disposal) of pesticides -a key priority from a public safety perspective. Current chemical safety capacities, from transportation to storage to disposal, are lacking or extremely limited and this could pose a major public safety threat.

Section 4

Strategic Framework

1. Reproductive Maternal Newborn Child Health, Nutrition & Family Planning

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Increased equitable access to and of quality Maternal Newborn Child Health, Family Planning and Nutrition across all public and private sector facilities in Punjab.**	
Objective 1: To ensure timely free access to quality MNCH irrespective of ability to-pay, to all the people in Punjab.		
1.1 Ensuring Political will and commitment to oversee and support all the initiatives for the achievement of comprehensive health and well being	Formation of Provincial Level Ministerial Board under the chair of CM having ministers, secretaries and technical experts of all relevant sector namely Health, Family Planning, Food, Agriculture, Environment, Livestock, Fisheries, Education, Social Welfare and Bait-ul-Maal	Chief Minister Minister Health
	Quarterly meeting of the Ministerial board to track the progress on Strategic Roadmap and action plan to ensure implementation of PHSS	
1.2 Establishing a Human Resource Planning and Development Unit	Forecasting and identifying shortage of staff in terms of its need and production	Health Department DGHS PSPU
	Strategizing to address the shortage of relevant staff especially anesthetist and radiologists etc. for fully operational Comprehensive EmONC facilities in terms of short term and long-term planning	Health Department DGHS PSPU
	Ongoing TNA and training on relevant areas	
	Planning for expansion in LHWs/CHWs to enhance community-based coverage	Health Department DGHS PSPU
1.3 Availability of Basic and Comprehensive EMONC facilities as per need/standards	Mapping of HFs across Punjab for the preparation of district wise list of Basic Emergency Obstetric, newborn and Child Care (BEmONC), Comprehensive Emergency Obstetric, Newborn and Child Care (CEmONC) facilities, Outpatient Therapeutic Program (OTPs) and Stabilization Centers (SCs)	CEOs DGHS

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Repositioning/strengthening of HFs for the provision of BEmONC, CEmONC services, OTPs and SCs accordingly	Health Department DGHS DHAs
	Engaging private sectors to provide services where service delivery gaps exist.	DGHS DHAs Private entities through PHCC
	Identification & treatment of retinopathy of prematurity (ROP) at all primary, secondary & tertiary level healthcare facilities.	SH&ME Department DGHS/ CH & ICH, LHR/ PSPU
1.4 Establish MNCH Hospitals	Establish MNCH Hospitals in public sector as well as in partnership with private sector which may be funded by Punjab Health Foundation.	Development Wing of P&SH Department DGHS PHF
	Identify sites and develop multi-level linkages	
1.5 Establish Linkages with the private sector / family physicians	Linkages and coordination with private sector/family physicians to address the gap	DGHS PSPU
	To establish a network of family physicians: 1. Conduct mapping of urban areas, selection of localities/neighborhoods and include the existing private sector physicians under PPP. 2. Strengthen Punjab Health Foundation to provide loans to streamline / establish these clinics	DGHS PSPU PHCC PHF
1.6 Institutionalize a well- defined referral mechanism	Development of SOPs for two-way linkages for timely patient referral	Health Department DGHS DHAs
	Strengthen the Project Management Unit for improving Referral from Primary and Secondary Healthcare Facilities to Tertiary Healthcare Facilities	
	Provision of adequate ambulances for timely referral	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
1.7 Uninterrupted Supply of Medicine	Conduct drug quantification and forecasting exercises Budget Allocation	Development Wing of P&SH Department DGHS DHAs
1.8 Coordination and linkages with the donors, INGOs, development partners and local NGOs for resources mobilization and pooling	Mapping of all development partners, INGOs, local NGOs and donors to mobilize resources and avoid duplication of services	DGHS PSPU
1.9 Strengthen Punjab Thalassemia Prevention Program (PTPP)	Upgrade all 36 District regional centers to provide services to meet with international standards Strengthen community outreach component to provide on ground Thalassemia screening services to general population at their doorsteps	DGHS PSPU Punjab Thalassemia Prevention Program
1.10 Strengthen Punjab Thalassemia Prevention Authority	Develop and support implementation of enactments, laws and regulations for Thalassemia prevention, early screening and treatment	DGHS PSPU Punjab Thalassemia Prevention Program
Objective 2: To institutionalize quality of care in MNCH services delivery system		
2.1 Institutionalization of Essential Package of Health Services (EPHS) as per Minimum Service Delivery Standards (MSDS)	Revisit of MSDS.	PHCC DGHS PSPU CEOs / DHAs
	Integrate revised MSDS into EPHS and ensure implementation throughout the province	DGHS PHCC PSPU
	Gap analysis of the HFs for provision of EPHS as per MSDS	Health Department PHCC DHAs
	Elevation of HF by provision of missing facilities and human resource	Health Department DGHS PSPU
	Periodic HFs assessment on key performance indicators to track progress regarding implementation of EPHS	DGHS PSPU PHFMC PHCC
	Licensing of all HFs by PHCC for implementing EPHS and MSDS	PHCC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
2.1.1 To strengthen the skilled surgical workforce for provision of emergency and essential surgical services at primary and secondary healthcare facility levels respectively. 2.1.2 To strengthen & integrate ongoing health information management systems (Public & Private) for the delivery of emergency and essential surgical services at primary and secondary facility levels.	To establish desired protocols for skilled surgical, obstetric, anesthesia, and allied surgical providers (ancillary staff, technicians and technologists) to meet the demand for emergency and essential surgery at the district level. To ensure the pathway of referrals from primary and secondary level facilities to tertiary level care facilities, where appropriate. Regular reporting of data by primary & secondary facilities on surgical care delivery, including surgical volume and peri-operative mortality rates. Periodic assessment of district and provincial level surgical care data	Health Department DGHS PSPU DHAs
2.2 Institutionalization of structured mechanism for verbal autopsy of maternal and newborn deaths at all levels	Development of SOPs/protocols for verbal autopsy of maternal and newborn deaths Implementation of verbal autopsy mechanism at all levels	ICT Cell (SH&MED) Integrated Information System / DHIS MNCH Section of DGHS PSPU
2.3 Management of Routine data	Develop Web based MIS for e-governance Harmonize data collection and reporting tools to remove duplications. Expand the implementation of modern data collection and reporting tools for better functionality and to cover more facilities.	Health Department DGHS PSPU International Development Partner PITB
2.4 Expand/strengthen training and education opportunities	Pre-service competency-based training of the medical students, nurse students and paramedics on MNCH, Nutrition and FP	Health Department VCs of Medical Universities Administrative Head of Nursing, Paramedics and AHP Colleges PMDC , PNC PMF, UHS IPH

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
2.4 Expand/strengthen training and education opportunities	Revitalize PHDC and DHDC network for Training Need Assessment (TNA) and organizing in service training of all relevant staff on MNCH, Nutrition and FP including ENC, Kangaroo Mother care, Helping baby breath, BEmONC, CEmONC, IMNCI, Screening and treatment on malnutrition, PPFP, HTSP etc.	Technical Wings of P&SHD & SH&ME Departments DGHS PSPU DHAs PHDC
	Incorporate professional behavior and patient satisfaction into both pre-& in-service training curriculum	VCs of Medical Universities Psychology Department PNC
2.5 Comprehensive M&E mechanism	Strengthening/development of M&E system on well-defined KPIs	Integrated and Neutral 3rd Party M&E (MEAs and Provincial Monitors) needs to be institutionalized for all health facilities
	Monthly performance assessment of all districts on pre-defined KPIs to track progress and for remedial measures	
	Sharing the district-wise progress with all DHAs on monthly basis and their ranking	
2.6 Ensuring research-based culture for decision and policy making	Collect/integrate evidence by conducting researches for policy-decisions and practice reforms	DGHS PSPU PWD UHS IPH Integrated Information System/DHIS
2.7 Standardized/unified advocacy and IEC Strategy	Development of comprehensive advocacy and IEC strategy, messages and campaigns Integrated Communication Strategy for all Vertical Programs	Integrated Communication Cell (PSPU) DGHS PSPU International Development Partners

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 3: To ensure timely free access to quality nutrition health services irrespective of ability to-pay, to all the people in Punjab		
1.1 Enhancing Geographical Access to OTPs and Scs	Establish OTPs in hotspots of high prevalent district	DHAs Relevant Program
	Establishing OTPs in all 24/7 BHUs and RHCs	
	Gap assessment of Stabilization Centers	
	Establish more SCs at all teaching, DHQ and THQ level hospitals to cater the complication of severely malnourished children	
	Establishing Breastfeeding corners at all workplaces through ministerial board decision	Ministerial Board Administrative Heads of Health facilities DHAs
	Implementing School Health & Nutrition Services for screening of school children	PSPU PMIU (Education Department)
1.2 Ensuring uninterrupted supplies	Accurate and careful quantification of medicines, supplies and nutritional commodities	DGHS Development Wing of P&SH DHAs DHIS
	Budget Allocation	Development Wing of P&SH
Objective 4: To institutionalize quality of care in nutrition services delivery system		
1.3 Ensuring implementation on MSNS	Making Nutrition as an integral part of EPHS and MSDS at all levels.	Health Department PSPU PHCC Multi Sectoral Nutrition and Population Cell Administrative Heads of Health Facilities
1.4 Institutionalizing strong Governance and Accountability System	Organization and management	DGHS PSPU
	Strengthen accountability mechanisms and performance management across the system	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
1.5 Management of Routine data	Develop Web based MIS for e-governance	Integrated Information System / DHIS PSPU Internal Development Partners
	Harmonize data collection and reporting tools to remove duplications	
1.6 Expand Training and Education opportunities	Expand the implementation of modern data collection and reporting tools to cover more facilities & better functionality	
1.7 Ensuring research-based culture for decision and policy making	As highlighted above in MNCH section	DGHS PSPU Relevant Program PWD UHS IPH Integrated Information System/DHIS International Development Partners
	Collect/integrate evidence by conducting researches for policy-decisions and practice reforms	
1.8 Standardized/unified advocacy and IEC Strategy	Development of comprehensive advocacy and IEC strategy, messages and campaigns	Integrated Communication Cell (PSPU) International Development Partner (UNICEF) Multi Sectoral Nutrition and Population Cell
	Integrated Communication Strategy for all Vertical Programs / Diseases	
Objective 5: To ensure timely free access to quality FP services irrespective of ability to-pay, to all the people in Punjab.		
1.1 Repositioning FP as a core health intervention	Making FP (including Postpartum Family Planning) as an integral part of EPHS and MSDS at all levels of health facilities.	DGHS PSPU PWD PHCC Multi Sectoral Nutrition and Population Cell
	Ensure provision of FP services at all levels of HFs	
1.2 Enhancing availability and accessibility of FP services	Landscaping of FP service provision by both HD and PWD	DGHS PSPU PWD International Development Partners
	Involvement of NGOs civil society and private sector where there is no PWD or health facility to go for a PPP model	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
1.3 Ensure uninterrupted supply of contraceptives to all levels of Health and PWD facilities	Enhancing coverage in uncovered areas by LHWs or Female Welfare Workers (FWWs) through mobile services	Integrated Information System / DHIS DGHS Development Wing PWD UNFPA
	Task sharing and enabling more mid-level providers to provide more family planning methods	
	Accurate and careful quantification of contraceptives keeping in view the unmet needs	
	Budget Allocation	
	Synchronized procurement and warehousing	
	Devising/Strengthening a mechanism (LMIS) to ensure uninterrupted supply to all facilities as per their needs	
Objective 6: To institutionalize quality of care in FP services delivery system		
2.1 Accreditation of all Health and PWD facilities	Ensuring implementation of EPHS as per MSDS	DGHS PHCC DHAs
	Licensing of Health and PWD facilities for provision of FP and PPFP services as per EPHS/MSDS	PHCC
2.2 Enhanced coordination between PWD and HD	Regular meetings at district and provincial level between HD and PWD to share progress and data on pre-defined protocols and templates	DGHS PWD DHAs
2.3 Management of Routine data	Integration of all data and preparation of one integrated FP report at district and provincial level	DGHS PWD DHAs
	Develop Web based MIS for e-governance	DHIS PWD PITB International Development Partners

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
2.4 Institutionalizing strong Governance and Accountability System	Organization and management	DGHS PSPU PWD Multi Sectoral Nutrition and Population Cell International Development Partners
	Strengthen accountability mechanisms and performance management across the system	
2.5 Effective Advocacy and IEC Strategy and Campaign	Development of an annual advocacy and awareness campaign ensuring multi-level, multi-sectoral and multi-stakeholder approach	
	Collaboration with PEMRA for free time on FP	
	Including counselling of young couples/newly weds about contraceptive methods	
	Regulation, legislation and enforcement for minimal age of marriage	
2.6 Expand Training and Education opportunities	As above (already explained in MNCH strategic roadmap)	
2.7 Collecting evidence through commissioning research	As above (already explained in MNCH strategic roadmap)	

2. Preventive Health Services including Communicable and Non-Communicable Diseases

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Improved access and quality of preventive health services for both Communicable and non-communicable diseases at both public and private Health facilities and community level.**	
Objective 1: To ensure availability and accessibility of preventive healthcare services at all levels of Hfs and through community health workers		
1.1 Enhancing multi-sectoral coordination to recognize the role of all sectors in achieving maximum level of health	Notification of a Provincial level Steering Committee chaired by CM having ministers and secretaries of all relevant sectors along with technical experts with well-defined TORs	Chief Minister Minister Health
	Regular Quarterly meeting of the Steering Committee on a predefined agenda	Chief Minister Minister Health
	Support for the preparation of Healthy Public Policies by all stakeholders	Chief Minister Minister Health All sectors
Objective 2: To strengthen/up scale the screening, testing and treatment services for communicable and non-communicable diseases		
2.1 Conduct Burden of Disease (BoD) Study for Punjab	Commissioning Technical Assistance for conducting BoD Study for findings and recommendations on how to move forward.	PSPU DGHS Relevant technical experts International Development Partners
	Develop Punjab Provincial Action Plan for CDs and NCDs.	
2.2 Strengthen prevention and management of all communicable and non-communicable diseases as per EPHS at all levels	Review and revision of EPHS for inclusion of new subjects/diseases like Dementia, Geriatric problems, psychiatric problems and major eye problems.	PSPU DGHS Relevant technical experts International Development Partners
	Development/strengthening of training material/manuals	Technical experts relevant programs
	Capacity building of relevant staff on diagnosis and management of diseases like Malaria, Hepatitis, TB, HIV/AIDS, Diabetes, Hypertension, Geriatric problems, psychiatric problems and major eye problems	DGHS Relevant Programs

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Strengthening of existing screening and testing services for communicable and non-communicable diseases	TB Hepatitis HIV AIDS Programs
	Establishing screening and diagnostic services for Hepatitis and TB down to the level of RHCs in high prevalent districts	
	Cover high risk population with Hepatitis B vaccination	HCP
2.3 Revitalization of school health services in all schools in collaboration with Education Department	Implementation of project for school health programs	PSPU PMIU (Education Department)
	Development of training material/curriculum	PSPU DGHS Technical experts
	Capacity building of SHNS, MOs of relevant HFs and teachers	
	Regular monitoring and performance assessment	PSPU PMIU (Education Department)
2.4 Initiating PPP model for enhancing the outreach of programs like TB, Hepatitis etc.	Development of PPP model	DGHS PSPU Relevant Programs
	Involvement of family physicians to improve accessibility	DGHS
2.5 Regular performance assessment of individual HFs as per set KPIs	Development of web-based MIS/integrated DHIS	PSPU DHAs Relevant Programs
2.6 Strengthen Punjab Mental Health Authority in pursuance of its mandate under the Mental Health Ordinance 2001 Punjab.	Develop and establish new standards for care and treatment of patients Conduct assessment for recommending measures to improve existing mental health services and setting up of child/adolescence, psychogeriatric, forensic, learning disability and community based services	SH&MED

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 3: To undertake in depth study of the Family Health and DCP3 Concepts.		
3.1 Commissioning the Assessment to deliberate the concept of Family Health Physicians	Development of TORs for the study design and conduction of assessment	DGHS PSPU Relevant technical experts International Development partners
	Conducting the study and deliberating discussion on the findings for feasibility of implementing in Punjab	
3.2 Commissioning the DCP3 study for inclusion in PSPU Knowledge Management Hub	Design, conduct and review Punjab Situation in light of the DCP3 review conducted by the Ministry of NHSR&C	DGHS PSPU Relevant technical experts International Development Partners
	Deliberating discussion on the findings of review for feasibility of implementing DCP3 Concepts in Punjab in line with Ministry of NHSR&C review	
3.3 Commission development of Costed Strategic Framework for implementing Phased out DCP3 Concepts in Punjab	Develop, review, finalize and approve Costed Strategic Framework for implementing Phased out DCP3 Concepts in Punjab	DGHS PSPU Relevant technical experts International Development Partners

3. Patient Safety and Quality of Care

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Ensuring Patients Safety and Quality for every person, everywhere and every time.**	
Objective 1: To have a safe health system that minimizes harm to patients, consumers, and reduces costs associated with preventable adverse events.		
1.1 Implementation of a Patient Centered Healthcare	Development of Quality Management System and front-line patient care at all tertiary care hospitals and THQ level facilities	P&SH Department SH&ME Department DGHS PSPU DHA PITB
	Effective Implementation of Complaint Management System at all health facilities	Health Department DGHS DHAs PITB MEAs Monitoring System (PSPU)
	Need assessment and deployment of Psychologists and Counsellors for relief of anxiety and stress.	Health Department DGHS MS Tertiary care MS DHQ / THQs
1.2 Ensure assistance with activities and daily living needs	Assessment of need of Physiotherapist and Allied Cadres as per international standards.	Health Department DGHS MS Tertiary care MS DHQ / THQs
	Deployment of Physiotherapist and Allied Cadres at all level of care.	
1.3 Sensitization and behavior change programs for Patient safety and improved quality of care	Undergraduate / Nurses / Paramedics training on patient safety, quality improvement	Health Department DHAs Academia
	Supporting healthcare professionals by Mandatory Induction training on patient safety, safe clinical and quality improvement practices.	Relevant Medical Universities / Nursing, Paramedics and AHPs Schools and Colleges
	Supporting healthcare professionals by refresher (continuous) training on patient safety, safe clinical and quality improvement practices	
	Development of accountability mechanism and KPIs linked to incentives.	Technical Wings of P&SH and SH&ME Departments DGHS PSPU DHAs

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Introducing and implementing a change management framework	Chaired by Minister Health Health Department DGHS DHA
1.4 Minimizing Healthcare associated infections	Gather evidence on current status of Healthcare associated infections by conducting Baseline Studies	DGHS PSPU ICP IPH
1.4.1 Increasing Knowledge, Skills and practices.	Development and dissemination of relevant Guidelines.	DGHS Integrated Communication Cell (PSPU) ICP WHO
	Capacity Building and development of Master Trainers and trickle-down trainings.	
	Develop Guidelines and Standard Operating Procedures for Health Staff Safety	
1.4.2 Generation of evidence for decision-making	Development of Web based MIS module tools and indicators for HAIs surveillance system.	DHA PITB WHO Integrated Information System / DHIS Relevant Programs
	Development of Web based MIS module for HAIs surveillance system as per GLASS.	
1.4.3 Development of targeted IEC campaign and material	Development of aggressive campaign on hand hygiene, for patients, families, communities and healthcare staff.	Relevant Programs of DGHS Integrated Communication Cell (PSPU) WHO Integrated Information System / DHIS /PITB WHO
	Comprehensive M&E mechanism that encompasses relevant Indicators checklist.	
1.4.4 Monitoring & evaluation of HAIs rates	Dissemination of results to relevant policy-makers and stakeholders.	Integrated and Neutral 3rd Party M&E (MEAs and Provincial Monitors) needs to be institutionalized for all health facilities
1.5 Up gradation of Laboratory services.	Evaluation of current laboratory system against international standards by developing checklist of essential equipment and standards.	Relevant Programs DHA WHO
	Quantifying the need for Biosafety level 1 and 4 laboratories.	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Phased-out development of BSL-4 Laboratories.	Health Department DGHS
	Ensuring each tertiary care hospital and THQ laboratory is equipped to detect antimicrobial resistance and antibiograms	Health Department DGHS ICP
	Development of a Provincial Public health reference laboratory	Health Department DGHS
I.5.1 Human resource rationalization	Need assessment of human resource requirements against each cadre to operationalize laboratory	Relevant Program Admin Wings DGHS DHA
I.5.2 Deployment plan for HR	Align HR deployment with establishment of laboratory plan.	
I.5.3 Establishment of protocols and monitoring laboratory standard	Develop, disseminate and monitor the MSDS and ensure quality standard of each level of laboratory.	Health Department DGHS PHCC
1.5.4 Strengthen the Punjab Human Organ Transplantation Authority	Develop regulations for organ transplantation including cadaveric transplantation Explore and support the international collaboration of xenotransplantation Develop capacity for inspecting recognized medical institutions and hospitals for examination of quality of transplantation, follow up medical care of donor and recipient and any other matter ancillary thereto and also periodically inspect institutions wishing to be recognized Develop guidelines and Standards for Organ Transplantation for HR Cadres and Public Dissemination of protocols for organ transplantation	SH&ME Department Punjab Human Transplantation Authority

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 2: To have a health system that maximizes the potential for safe and high-quality care by supporting and encouraging patients and the community members to participate as an equal partner in healthcare		
2.1 Placement of effective and synchronized coordination mechanisms	Provincial level platform/steering committee spearheading holistic improvement in quality of care.	Minister Health Health Department DGHS
	Revival of District Health Management Team (DHMT) and inclusion of relevant stakeholders (including patient and community)	Health Department DGHS DHA
	Development, implementation of TORs and regular meetings	Health Department DGHS DHA
2.2 Coordination of clinical care	Development of effective and integrated escalation of care (by documented, well-communicated, filled-resourced inter-intra Healthcare facility, higher level facility coordination and mechanism of referral)	Health Department DGHS DHA
Objective 3: To have a health system that supports safe clinical practice by having robust and comprehensive information system.		
3.1 Robust and sustainable improvement in systems	Strengthening of infection control and patient safety programs	Integrated Information System Infection control program PHCC BTA PNRA Health Department DGHS DHA
	Development of Provincial Quality of Care framework.	
	Establishment of Quality Control and safety units at provincial/district and facility levels.	
	Creation of post of Quality Assurance Officer at facility level.	Health Department P&D
	Resource allocation to meet the minimum standards (includes HR, Finance, Logistics and infrastructure)	Development Wings P&D
3.2 Monitoring & Evaluation of Quality Care Standards	Development of patient safety and quality of care standards.	PHCC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
3.2 Monitoring & Evaluation of Quality Care Standards	Continuous and periodic monitoring of patient safety, Quality Assurance (QA) Quality of care Indicators (QI).	Health Department DGHS DHA PHC
	Development of Monitoring framework/task force/team to oversee the performance of all standards set by regulatory bodies.	Integrated and Neutral 3rd Party M&E (MEAs and Provincial Monitors) needs to be institutionalized for all health facilities DGHS DHA PHCC, ICP
3.3 Data management and integration of information	Inclusion of selective quality indicators (Healthcare Associated Infection, Hospital Waste Management, Antimicrobial Resistance, Blood Transfusion, Infection Control) for web-based surveillance system.	Health Department DGHS Integrated Information System PHCC ICP PITB
	Sharing of information with relevant stakeholders (PHC, BTA, PNRA, EPA, P&SHD, SH&ME, P&D) for decision-making.	PHCC Health Department
3.4 Strengthening of regulatory mechanisms alluding to quality and patient safety	Enforcement of existing regulations including Blood Transfusion Act, PHC Act, Punjab Hepatitis Control Act, Hospital Waste Management Rules 2014 and Communicable Disease Act 1952	PHCC BTA PNRA EPA
	Development of patient and consumers rights	PHCC
3.5 Research & Development	Operational research for practice reforms and policy development	Relevant Programs IPH UHS
	Baseline research for Healthcare Indicators	PHRC NIPS Public and private medical
Objective 4: To provide safe and easy access to persons with disabilities at health facilities complying Accessibility Codes		
4.1 Compliance on implementation of Accessibility Codes at all Health Facilities	Provision of Quality Healthcare Services to Persons with Disabilities	Health Department DGHS PSPU PHCC Administrative Head of Health Facilities
	Inclusion of Indicators related to PWDs in the Knockdown Criteria of Health Facilities	

4. Medicines and Biomedical Equipment

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Uninterrupted supply of safe and quality assured essential medicines for healthcare facilities and outreach workers, and availability of safe, high quality functional and desired equipment at all levels of Health Facilities.**	
Objective 1: To improve logistic and supply chain management system for regular, uninterrupted and adequate availability of essential medicines at all levels of healthcare.		
1.1 Enhance existing logistics and supply chain management system	Adoption of standard operating procedures and guidelines for procurement and distribution system as per WHO guidelines	Health Department DGHS
	Technical backstopping and support to all procuring agencies by the provincial procurement cell in terms of SOPs, guidelines and capacity building etc.	
	Restructure medical store depots (MSDs) on modern lines and create a network of MSDs in all districts as a part of the supply chain management	
	Adapt and implement an integrated Vaccine Logistic Management Information System (VLMIS), and integrated warehousing and LMIS	
	Strengthen implementation of PPRA rules and regulations for procurement	
	Automate evidence-based system for quantification, prequalification, procurement and distribution	
Objective 2: To regularly review the Essential Medicine List (EML) for making it more responsive to changing health needs.		
2.1 Regular review of Essential Medicine List (EML)	Institute periodic review of the EML on two yearly basis	Drug Control Wing of Health Departments DGHS
	Update the EML while keeping in mind needs of the population and burden of disease	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
2.2 Medicine & Equipment Inventory System	Development of Medicines and Equipment Inventory system	Drug Control Wing & Technical Wing of Health Departments DGHS
	Monitor pharmacies to be operated by qualified pharmacists	
Objective 3: To ensure proper and enough storage of essential medicines at provincial and district level.		
3.1 Proper storage of medicines at provincial and district level	Situation assessment regarding provincial and district level storage capacity	Drug Control Wing DGHS DHAs
	Appropriate measures to enhance the capacity where required	
3.2 Pharmacy & Therapeutic Committee (P&TC) at every teaching hospital/ DHQ	Preparation of hospital formulary at every teaching hospital and district hospital	Drug Control Wing
3.3 Software for monitoring of supply chain system	Installation of 2D data matrix and supply chain monitoring management software	
Objective 4: To improve quality of medicines by enforcement of Medicine Regulation in Punjab at all levels of manufacturing, storing, testing and sale.		
4.1 Regulations regarding sale of therapeutic medicines	Development of appropriate regulations and SOPs	Drug Control Wing DRAP
	Relinquish unauthorized sale points and control on sale of antibiotic without prescription, following good practice implemented for Psychotropic and narcotics in Punjab	
4.2 Enhancing role of clinical pharmacist for maximizing treatment outcome and avoid excess morbidity and mortality	Clinical pharmacist in every teaching, THQ and DHQ level hospital, along with resident-based trainee at all teaching/DHQ hospital	P&SHD Drug Control Wing DGHS
4.3 Risk Based Post Marketing surveillance (RB PMS) of medicine quality	Establishment of RB PMS, on more strict monitoring for high risk products and from high risk manufacturer to more judicious use of resources.	Drug Control Wing of Health Departments
	Strengthening and capacity building of Medicine Inspectorate/PDCU	
	Six monthly performance review of Medicine Inspectorate and KPIs	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
4.4 Strengthening Provincial Quality Control Laboratories	Regularly equipping and updating all five Medicine testing laboratories, with provision of regent, primary reference standards and other consumables. After achieving ISO 17025-2015, labs will submit EOI and LIF for WHO prequalification.	Drug Control Wing of Health Department DGHS
4.4 Addition of facility testing of microbiology, medical devices including contraceptive and nutraceutical to these five labs	International standard addition to Medical Devices at any one lab, Microbiological testing to other and nutraceutical to third lab and attain ISO and WHO PQ	Drug Control Wing of Health Department DGHS
4.5 GMP categorization on basis of Risk of medicine and health product manufacturer	Risk Based GMP Categorization and gap analysis of Medicine manufacturer in Punjab or Supplying medicine or health products to Punjab Government. For this, private sector involvement could be mitigated.	Drug Control Wing of Health Department DGHS
Objective 5: To ensure registration of biomedical equipment and development of SOPs for their regulation		
5.1 Registration of biomedical equipment	Development of SOPs and guidelines to strengthen the registration of biomedical equipment	Health Department DGHS BERC DRAP
	To ensure registration of all biomedical equipment as per standards	DGHS BERC
Objective 6: To develop a facility wise standard list of equipment as per WHO guideline		
6.1 Formularize a facility wise standard list of equipment as per WHO guideline	Devise a comprehensive list for all level of health facilities and speciality hospitals which can be used for future procurements and to bring each health facility up to the level of its standardized list of equipment.	Health Department DGHS BERC
Objective 7: To ensure availability of updated functional equipment at all levels		
7.1 Ensuring availability of standard/functional/updated equipment at all levels	Comprehensive Situation assessment regarding availability of biomedical equipment at all levels- Computerized Inventory management and Tagging	DGHS BERC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Establish the biomedical engineering setups within the main hospitals and linking small centers through main and mobile workshops	Health Department DGHS BERC
	To ensure replacement of old/obsolete equipment in a gradual manner	DGHS BERC
Objective 8: To regularize procurement activities		
8.1 To regularize procurement activities	Build capacity of procurement staff	Health Department DGHS
	5-year comprehensive service contracts for all major equipment and central rate contract as per standardized specs for each type of facility	Health Department DGHS BERC
	Link procurement data with computerized inventory management	Health Department DGHS BERC
Objective 9: To hire new and build capacity of existing biomedical engineers and technicians		
9.1 To hire new and build capacity of existing biomedical engineers and technicians	Hire new staff for biomedical setups in each hospital and for workshops	Health Department DGHS BERC
	Build capacity of existing staff through service for each type of equipment through OEM	Health Department DGHS BERC
	Existing staff can then train new staff on specific equipment to carry out maintenance activities	Health Department DGHS BERC
Objective 10: To standardize specification for all biomedical equipment as per the requirement of each type of health facility		
10.1 To standardize specification for all biomedical equipment as per the requirement of each type of health facility	Standardized specifications should be used for each type of facility and should be upgraded annually according to latest technology and needs	Health Department DGHS BERC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 11: To develop competency framework for pharmaceutical services		
11.1 To develop competency framework for pharmaceutical services in eight key pharmaceutical service areas	Develop competencies required for eight core pharmaceutical service areas, including pharmaceutical policy and planning, pharmaceutical rules and regulations, quality assurance systems, clinical pharmacy/pharmaceutical services, procurement, supply chain and medicine distribution, in both the public and private pharmaceutical sector.	Drug Control Wing

5. Health Management Information System

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**A comprehensive and integrated Information system for planning and policymaking.**	
Objective 1: To enhance scope and contents of health data systems for policy and planning.		
1.1 Strengthen district and community-based information system and its integration with facility-based DHIS and integration of selected KPIs of all vertical programs in the central DHIS dashboard	Institute a mechanism for community-based workers to register all health-related events, specifically neonatal, infant, childhood and maternal deaths	DHIS Cell of DGHS PSPU HISDU MIS of respective vertical programs ICT Cell (SH&MED) PITB International Development Partner
	Develop web-based mechanism for integration of DHIS and community-based MIS* and selected KPI from each vertical program	
Objective 2: To plug data gaps by instituting additional approaches for autonomous tertiary hospitals and private sector.		
1.1 Creation of standardized information system for tertiary level hospitals in public sector	Develop and implement a uniform and Tertiary-level Health Information System	Health Department PSPU ICT Cell (SH&MED) PHC Autonomous tertiary hospitals
	Develop guidelines for all autonomous tertiary hospitals for timely reporting to provincial level	
	Training/Capacity building of all stakeholders on reporting guidelines and templates	Health Department PSPU ICT Cell (SH&MED) PHC Autonomous tertiary hospitals SM&IPU (SH&ME Department)
1.2 Linkage of Tertiary Healthcare Information system with Secondary & Primary Healthcare Information System	To establish an IT based referral mechanism between all level of health facilities before discharge and receipt of patients as a referral case in respective health facilities	CEO Administrative Incharge of Health facility ICT Cell (SH&MED) PSPU DHIS
1.3 Linkage of private sector health facilities with provincial level information system	Link private facilities with provincial level information systems for priority infectious disease notification	Health Departments DHIS Cell of DGHS PSPU PHC
	Validate quality of information collected through quality assurance activities of Punjab Healthcare Commission	Health Departments PHCC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
1.4 Capacity building of district health managers on use of information through support of Provincial and District Health Development Centres	Institute a regular training programme based on training needs assessment on use of information by district health managers	DGHS PSPU PHDC
	Build the capacity of PHDC and DHDC through technical assistance to conduct training programmes	DHDCs DGHS PSPU SM&IPU (SH&ME Department)
	Develop annual health plans based on the use of information	
1.4 Capacity building of district health managers on use of information through support of Provincial and District Health Development Centres	Institute a regular training programme based on training needs assessment on use of information by district health managers	DGHS PSPU PHDC DHDCs
	Build the capacity of PHDC and DHDC through technical assistance to conduct training programmes	DGHS PSPU SM&IPU (SH&ME Department)
	Develop annual health plans based on the use of information	
1.5 Integration of DEWs and IDSR into DHIS for having a comprehensive integrated Disease Surveillance System at provincial and district level.	Strengthen IDSS and DEWS and ensure its use in planning and policy preparation	Health Departments DHIS Cell of DGHS PSPU PITB International Development Partners
	Build capacity of relevant staff on recording and reporting of diseases enlisted in IDSS/ DEWS	
1.6 Integration of Family Planning Data with DHIS	Integration of Family Planning data from PWD with DHIS has been completed and data integration is in pipeline	PSPU
Objective 3: To establish comprehensive system of Health Dimensions of Civil Registration and Vital Statistics (CRVS) at all levels of health facilities including public and private sector		
3.1 Nomination of Focal Point to work for CRVS	Notification of PSPU to work as focal point for CRVS in collaboration with DHIS unit of DGHS	DHIS Cell of DGHS PSPU PITB
3.2 Ensure capturing of data for CRVS	Uniform and universal electronic death and birth slips, as per international protocols, has been developed	PSPU
3.3 Ensuring periodic sharing of morbidity and mortality pattern	Development of analytical tools to develop pattern of morbidity and mortality	DHIS Cell of DGHS PSPU PITB

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 4: To develop a mechanism for dissemination of the performance of health sector.		
4.1 Institute a mechanism to organize an information database containing research studies, reports, literature and relevant documentation pertaining to health sector of Punjab	Develop a "Knowledge Repository Cell (KRC) in PSPU	
	Develop linkage with HIS, UHS, IPS governmental departments, NADRA database, national and international agencies, academia and research organizations in both public and private sector of the province	
	Develop Linkages with local bodies, education (school health), Social Security, Military Hospitals, Aukaf etc. for integration with Punjab Health Development data	P&SH Department DGHS PSPU IPH UHS SM&IPU (SH&ME Department)
	Develop Linkages with private health facilities in data collection and sharing.	
4.2 Organize, analyse and publish pertinent health information on health sector performance for a wider dissemination	Prepare and publish Annual Health Report (AHR[80]) based on analysis of district and provincial level data on key performance indicators by the KRC	PSPU
	Dissemination of AHR to districts and general public through KRC electronic and print media	
4.3 Institutionalize a mechanism for a comprehensive health survey at household level	Institutionalize Punjab Health Survey with a periodicity of five years for specific data requirements of health policy and planning	Health Department DGHS Bureau of Statistics Development Partners
	Conduct periodic independent third-party health facility assessment	
	Establish linkages and collaboration with Bureau of Statistics and relevant organizations	

[80] List of indicators used for publishing Annual Health Report shall be based on the key performance indicators identified for this strategic plan

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
4.4 Strengthen health research in both public and private sector	Operationalize and strengthen Punjab Medical Research Fund through active collaboration with national and international partners and research funds to support and guide research activities in the province Reform Institutes of Public Health, Medical Universities in Punjab to conduct medical researches on all health-related subject in collaboration with PSPU	Health Department (PSPU) DGHS UHS Punjab Medical Research Fund
	Provide incentives and a supportive environment for students and faculty in medical institutions to engage in quality research in relevant areas	
4.5 Ensuring Quality Assurance of data being collected through various sources	Third party data validation survey	Health Department DGHS PSPU

6. Health Governance and Accountability

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**An efficient system of health sector governance, accountability and regulation.**	
Objective 1: To strengthen both Health departments for their key roles in health policy making, programming, human resource management, monitoring and evaluation.		
1.1 Strengthen Department of Health for stewardship and monitoring and promulgation of new legislations	Redefining role of Health Department for stewardship, policy formulation, resource allocation, regulation and oversight	Health Department after getting input from PSPU and CEOs of districts and divisions DGHS
	Build departmental capacity in policy and programming	
	Strengthen PSPU/DGHS to provide support to HD for performing stewardship role by preparation of strategic action plans and their implementation	
	Create a system of evidence-based decision making and planning by strengthening DHIS	
	Integration of all information systems for the development of a central dashboard, having all information regarding finances, procurement, HR and health related indicators	PSPU DHIS Administration & Development Wing
	Develop mechanisms to assess expenditure efficiency with legally bound reporting requirements from all implementing agencies/organizations	Development Wing DGHS
	Create systems of internal communication between health sector organizations to ensure better uptake of policies	DGHS PSPU
	Create a Health Strategy Ministerial Board with co-opted members from health professions of both public and private sector for overall monitoring of achievement of health sector goals/objectives	Minister Health Department
	Promote public private partnerships by developing framework for PPP by identifying appropriate implementation mechanisms	Special Secretary Health DGHS PSPU
Objective 2: To reorganize/strengthen DGHS for ensuring implementation of health strategy initiatives including all preventive programs in the province.		
2.1 Firming up of DGHS to provide support for the implementation of health strategy initiatives	Strengthening M&E through DHIS cell and conducting research to create system of evidence-based decision making, planning by conducting latest field researches analyzing the received reports surveys etc.	DGHS PSPU

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Preparation of monthly reports of all districts and HFs using data from DHIS, MEAs dashboard, M&E directorate, sharing with secretary for performance assessment and accountability as per key performance indicators	DGHS PSPU DHIS
	Develop response protocols to deal with disease outbreaks, emergencies, systemic failures and natural disasters	DGHS PITB International Development Partners
	Develop programs review guidelines to carry out periodic assessments of key health programs through DHIS and M&E Reports	DGHS PSPU
Objective 3: To decentralize health management and service delivery giving optimal autonomy to decentralized districts and autonomous health facilities.		
3.1 Optimize decentralization to districts/divisions and autonomy to health facilities	Strengthen decentralized district health departments by creating Regional Health Authorities at divisional level through regional health authorities act 2019 and autonomous HFs and medical teaching institutions by promulgating new legislations like Medical Teaching Institutions (MTI) Act 2019 to devolve power to smaller units at primary, secondary and tertiary care institutions for efficient service delivery by ensuring a conducive environment in terms of one-line budget for devolving administrative and financial resources	VC of Medical Universities MS of Health, Facilities CEOs
	Create systems for setting health goals for decentralized entities, mentoring and accountability	DGHS PSPU
	Enhance district capacities for programming, planning and decision making by upgrading PHDCs and DHDCs	DGHS PSPU DHAs
	Review of autonomy granted to tertiary hospitals regarding adequacy of management authorities, resources and clearly spelt out responsibilities	SH&ME Department
	All districts and institutions to develop and report on annual work plan & health report	CEOs DGHS PSPU (P&SH) SM&IPU (SH&ME)

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 4: To establish a robust, comprehensive and responsive regulatory regime to provide optimal regulatory environment to healthcare delivery across Punjab.		
1.1 Fully operationalize Punjab Healthcare Commission (PHCC)	Review and revision of PHC act to make it more enabling	Administrative Incharge of health facilities CEOs PHCC SH&ME Department
	Regular performance review of PHCC	Minister Health Health Department PHCC
	Registration and licensing of all HFs by end 2020	
	Strengthen regulation and registration of all cadres of health workforce including doctors, nurses, allied health professionals, homeopaths and Tibbs, and other health-related service providers like nutritionists, physiotherapists, optometrists, etc.	
Objective 5: To promote a culture of community participation and empowerment to make healthcare delivery system responsive to the community needs		
4.1 Incorporation of community feedback to promote community empowerment	Notification of health committees at all primary, secondary and tertiary level facilities	Health Departments DGHS PSPU
	Periodic meeting of all health committees on set agenda and minutes sharing on standardized web-based system	Health Departments DGHS PSPU Integrated Information System
4.2 Ensuring District and Provincial level advocacy forums to assess the progress and resolve the issues in a timely manner	To establish district and provincial level advocacy forums with well-defined TORs.	DGHS PSPU DHAs
	Regular meeting on structured agenda and sharing minutes on web-based information system	DGHS PSPU DHAs Integrated Information System

7. Human Resource for Health

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Availability of adequately skilled Health workforce to fulfil the current and merging health needs of population.**	
Objective 1: To establish a governance and leadership structure for HRH policy, planning, production and management.		
1.1 Establish a Human Resource Planning and Development Unit	Establish Human Resource Planning and Development (HRPD) Unit at provincial level and at the district levels (DHO HR office); to provide a mechanism to analyze and use the HRH information for decision making, planning and policy making	Policy Units of both Health Departments Integrated Information System
	Forecasting the total HRH required, taking in account MSDS needs for production and absorption as well migration levels as per WHO Code of Practice for International Migration	
	Develop automated database in the form of Human Resource Management Information Systems (HRMIS) for both public and private sector	
	Study internal and external migration trends and implement WHO Global Code of Practice on international recruitment	
Objective 2: To ensure availability of healthcare providers where required.		
2.1 Fill all vacant posts of healthcare providers at primary healthcare facilities, especially in rural and hard-to-reach areas by introducing central induction policy	Institute a special incentives package for RHCs where there are no WMOs, nurses or other female health staff, including both financial and non-financial incentives	Admin & Development Wings of P&SH Department PSPU
	Provide market driven incentives to Doctors at THQ and DHQ hospitals	
2.2 Fill all vacant posts of specialists at secondary healthcare hospitals	Implement special incentives package/ flexible contract arrangements for specialists working in SHC facilities according to the local needs focusing on anesthetists, pediatricians, radiologists, pathologists and gynecologists as a short-term measure to be incorporated into DHCs model	Health Department DGHS CPSP UHS IPH Relevant Authorities
	Recognize THQ and DHQ hospitals for placements of PG trainees	
	Rotational placements of the required specialties at the THQ and DHQ hospitals for at least three months from tertiary and teaching hospitals	
	Develop short certificate courses in deficient specialties through CPSP, UHS or IPH	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 3: To establish ways of improving quality and productivity of HRH		
3.1 Develop a Health Services Academy on the lines of Civil Services Academy for trainings of different categories of health workers	Upgrade and revitalize Provincial Health Development Centre (PHDC) to the level of Punjab Health Services Academy (PHSA)	Health Departments DGHS PSPU PHDC DHDCs
	Strengthen District Health Development Centre (DHDC) network to conduct district level induction trainings and strengthen linkages with PHDC	
	Mandatory induction training on standardized manual	
	Conduct training needs assessment for various cadres and institutionalize all on job training with PHSA and DHDC network	
	Develop category-focused and level-specific training courses with management training separate from clinical cadres, and link trainings with career advancements	
	Developed linkages with renowned private sector institutions like LUMS for leadership, management and other specialized trainings to improve quality of HR	
Objective 4: To improve retention of health workers and revitalize the concepts of continuous professional education and training.		
4.1 Development of strategy/ policy guidelines for retention of HRH	Conduct an independent in-depth review and develop an HRH Strategy for retention of Human Resource in Punjab.	Health Department UHS Donors
4.2 Fill faculty positions in all health educational institutions (medical, nursing and allied health professionals) with trained and qualified teachers	Meet standard of faculty needs for medical colleges, nursing schools and allied health professional teaching institutes	Health Departments UHS IPH
	Attract medical graduates/post graduates to areas where there is deficiency e.g. in basic sciences. Institute similar incentives for nurses and allied professionals' faculty	
	Identify and implement incentives to attract trained faculty in nursing and allied health professional education institutions	
	Fill all staffing positions in all medical colleges in Punjab according to PMDC regulations	
	Provide training in teaching methodologies and ultimately make it mandatory for teaching in any medical institution in Punjab	
	Initiate training programmes for nursing and allied health professional teachers; update and expand existing programmes	

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 5: To update medical education curriculum with a focus on community-oriented medical education.		
5.1 Revise the medical education curriculum with more emphasis on promotive and preventive care and incorporate Community-Oriented Medical Education (COME) at all levels	Adopt the community-oriented medical education (COME) curriculum that was developed for the pilots	Health Departments PSPU UHS IPH PMDC
	Update nursing curriculum with an emphasis on community-oriented perspective	
	Raise awareness about the benefits of using COME approach to increase acceptance among faculty and students	
	Train faculty in the use of COME and appropriate assessment techniques	
	Implement COME curriculum for both medical and nursing education	
	Review and modify the medical college examination system according to the needs of COME	
5.2 Create CME opportunities for health professionals and over time make CME mandatory for continuation of practice	Make regular CME opportunities available for all health professionals through CPSP, UHS and private institutions	CPSP UHS PMDC Private institutions
	Make CME opportunities available for private healthcare providers and GPs	
	Create Tele-education and distance learning courses to give CME opportunities to people working in rural and hard-to-reach areas.	
	Initiate a Health Portal for online knowledge brokering for the health professionals, where they can have access to global and local knowledge through lectures, presentations and live demonstrations of procedures by health experts, as well as sharing of their technical research papers and case studies.	
	After a certain period of regular provision of CME opportunities, a defined number of CME credits should be made mandatory and linked with continuation of practice/license.	
	Include informal studies/training on human dimension of health and essential skills during undergraduate and graduate studies, based upon the outcomes of the pilot project on complementary skills by three medical college in 2009-2011	

8. Healthcare Financing & Public Private Partnership

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Reducing OOPE and reducing the incidence of catastrophic expenditure and impoverishment due to health expenditure.**	
Objective 1: To engage private sector in poorly covered areas by the Public Health Sector		
1.1 Map out the Private Health Sector in Punjab	Commission a study to fully map out the Private Health Sector in Punjab the study would outline the Private Health Sector and its capacity for venturing Public Private Partnership (PPPs, supporting Government in undertaking the task of Universal Health Coverage	Health Departments PSPU PHCC
1.2 Develop a Policy/Strategic Framework for Private Sector inclusion in service delivery and develop the parameters of PPPs contracting modalities	Commission a study to develop the Policy / Strategic Framework and get it approved from the Cabinet	Health Departments PSPU PHCC
1.3 Establish a cell within the PSPU for contracting and managing the PPPs	Establishment of cell alongwith PSPU	Health Departments PSPU PHCC
1.4 Encourage and Promote Private sector	Built-capacity of Private General Practitioners through Continued Medical Education (CME)	Health Departments Academia PMA PMDC UHS IPH
	Certification endorsement /diplomas after completion of teaching modules	SH&ME Department PMDC UHS IPH
	Strengthening of PHF and simplification of cumbersome procedure	SH&ME Department PSPU
	Involvement of banks for provision of soft loans	Minister Health Health Department
1.5 PPP to reduce load on Tertiary care	Private medical colleges teaching hospitals having wards for poor patients, supported through Corporate Social Responsibility (CSR) or waving-off taxes or financing researches of these hospitals	Health Departments PHCC Private Teaching Hospitals

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Proper record maintenance and sharing of patients data with health department	
	Regular monitoring of the system	
	Encourage private medical colleges to establish nursing and allied health professional colleges and establish community-based healthcare clinics as satellite clinics of their teaching hospitals, providing reduced priced or free health services	
	Include private medical colleges to put their PG Students in Government Hospitals as a part of their training	
Objective 2: To enhance accessibility and availability of Free of Cost (Government Sharing) Health Services to the poor segment of the society by incorporating the private sector		
2.1 Sehat Sahulat Program by issuance of Sehat Insaaf Card to ensure Universal health Coverage by empaneling hospitals including private teaching hospitals as a PPP model and Reducing the Out of Pocket Expenditure (OOPE)	The program has already been launched and will cover all 36 districts of Punjab by June 2020 thus by introducing "Sehat Insaaf Card" and utilizing the private health facilities will increase the number of Beds to Patients ratio and improvement in healthcare delivery system	PHIMC Development Partners
2.2 Enhancing accessibility and availability in case of emergencies in far flung area	Create a pool of GPs and specialists for management of referred cases in case of emergencies in far flung areas	Admin Wing of Health Departments
2.3 Involvement of community and civil society to enhance community empowerment	Formation of local community boards along with well-defined TORs to identify different health related issues of their area	Local Government Health Department
	Provision of funds for implementation of schemes	Finance Department Health Department
2.4 Institutionalizing Medical Tourism	Involvement of Embassies to facilitate the visa process	Health Department
2.5 Efficient Financial Management	Training of health managers on Financial Management and e-procurement	PSPU DHDCs

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 3: To ensure sustainable Financial-Models in Healthcare		
3.1 Resource Mobilization	Raise additional resources from the existing funding sources by developing a health financing strategic document	Finance Department Development Wings of Health Departments International Development Partners PSPU
3.2 Resource Pooling	Design options for pooling health financial resources and implement sustainable and risk-based financing schemes	Finance Department Development Wings of Health Departments
	Develop a Health Insurance scheme with inclusion of both formal and informal sector	Finance Department Development Wings of Health Departments
	Formulate the required legislation for establishment of Health Insurance Scheme	Finance Department Health Departments
	Defining which disease will be under donor budget and by when	Finance Department PSPU
	Distributing, aligning of donor budgets according to provincial/district health needs	Health Department PSPU
	Developed Phasing out plans from donor support to be back on-budget funding	Finance Department PSPU P&D SM&IMU (SH&ME Department)
	Monitoring and evaluation mechanism for control and utilization of budgets	Finance Department Health Department P&D
	Outsourcing of non-core clinical services	Health Department Procurement Cell
3.3 Strategic Purchasing and allocation of resources.	Introduce performance -based financing	Finance Department Health Department
	Key performance Indicators and accountability of district team for the disease under donor and others pool	Finance Department DGHS PSPU
	Performance agreements (supply-side Financing) with Private GPs serving the underserved by Public sectors	Finance Department Health Departments PHCC

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
	Partial-Franchising Models for Maternal and child health services with private sector	GP Finance Department Health Department
	Introduce formula for allocation of funds to peripheral health facilities	Finance Department Finance Wing of Health Department
	Initial Review and periodic review of the resource allocation criteria and formula to ensure rational and equitable resource distribution across districts	Finance Department Finance Wing of Health Department

9. Health Disaster Management and Emergency Medicine

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME	**Health Disaster Management at all levels is well prepared to efficiently respond to the emergent situations**	
Objective 1: Enhanced Coordination among all stakeholders		
1.1 Institutionalize coordination mechanism between all stakeholders	Develop a formal mechanism for regular coordination between PDMA, HD, Rescue 1122, Civil Defence, NGOs	Health Department DGHS PDMA PSPU PITB
	Regular web-based reporting on coordination	
Objective 2: Prioritization of highly vulnerable areas for targeted interventions		
2.1 Strengthening/development of training modules on emergency response and relief	Review and revision of existing training modules on disaster management and response	DGHS PSPU IPH UHS PDMA Rescue 1122 International Development Partners
Objective 3: Improved capacity of relevant staff in emergency response and relief mechanism		
3.1 Capacity building of all stakeholders in emergency response and relief	Capacity building in emergency response and relief of all stakeholders including PDMA	Health Department DGHS PSPU IPH UHS PDMA Rescue 1122 International Development Partners
	Training /refresher training of all health staff on disaster management and emergency management	
	Training of volunteers on pre-hospital emergency care in every UC	
	Special initiatives in highly vulnerable areas in terms of volunteer preparation, health staff training and training of relevant staff of all stakeholders	

10. One Health including Environmental Health

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
OUTCOME 1	**A healthy environment having measurable positive effect on health of people of Punjab.**	
Objective 1: To provide adequate and safe drinking water as well as adequate sanitation facilities to communities		
1.1 Notification of One Health Task Force chaired by Provincial Health Minister	Revitalization of Environment Health, Animal Health and Human Health under one umbrella	Chief Minister Minister Health Health Departments PSPU
1.2 Providing Health Education and promotion activities	Development of a comprehensive health education and promotion campaign that improves water safety at home through boiling, simple chlorination (e.g. chlorine tablets) disinfection, and safe domestic storage and ends open defecation.	DGHS DGPR Technical members from EPD, ICP, SH&ME and Integrated Communication Cell (PSPU)
1.3 Establish effective governance and multi-sectoral strategy	Developing a provincial steering committee for this task.	Minister Health
	Development of a multi-sectoral strategy in collaboration with health-related sectors (energy, transport, agriculture, WASA, livestock, animal Sciences etc.) and organizations, that addresses Wastewater Treatment, Safe Reuse, provision of piped water on 24 hours basis and future strategies for water conservation, management of freshwater ecosystem, rain water harvestings and facilities to minimize open defecation and safe human-animal interaction to avoid zoonotic diseases.	DGHS PSPU VCs of universities for animal sciences, Technical members from energy, transport, agriculture, livestock, WASA, ICP etc.
1.4 Provision of adequate resources	Development of a quality assured water testing laboratory at district level	PSPU DHAs Technical Experts from relevant departments
	Assessment of required human resource, other equipment needed for running the laboratories and the surveillance teams	
1.5 Capacity building of surveillance team	Competency-based curriculum development and in-service training	VCs of universities of Medical and animal sciences, PHDCs PSPU IPH UHS

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
1.6 Ensuring effective and efficient monitoring and surveillance system	Provision and regular maintenance of household and Healthcare facility water tanks.	Provincial Task Force Technical Teams of relevant departments PSPU DHAs
	Developing surveillance system and teams for water quality and monitoring at all levels, including domestic and Healthcare facility.	
	Development of monitoring tools and system of laboratory and surveillance team	
	Assessment of old and unreliable water distribution networks and development of budget and resource plan	
	Replacement/repair/maintenance of old and unreliable water distribution networks	
1.7 Regulation and legislation	Enactment of Punjab Water Act 2013 to protect excessive groundwater exploitation.	
Objective 2: To bring measurable reduction in food-borne diseases and food poisoning cases by provision of safe food.		
2.1 Providing Health Education, promotion and advocacy campaigns	Development of a comprehensive health education and promotion campaign, that address the importance and practice of proper hand hygiene.	Integrated Communication Cell (PSPU) DGPR
	Supervision of an advocacy campaign for food safety and security	Provincial Task Force
2.2 Governance and multi-sectoral strategy	Develop a multi-sectoral strategy that advocates, promotes and enforces food safety legislation for protecting human health from food-borne diseases; safe handling, transport, storage and distribution of food; strengthen food surveillance and monitoring systems, promote indigenous and organic farming and addresses irrigation of crops with safe water (meeting WHO and/or national guidelines).	DGHS PSPU ICP Punjab Agriculture and Meat Company-PAMCO Punjab Food Authority-PFA

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 3: To bring improvement in air quality for reduction of Acute Respiratory Infection cases in the most vulnerable population (e.g. women, children and elderly)		
3.1 Establish leadership	Strengthen capacity building and health sector leadership in environmental health. Ensuring presence of a focal person in strategies developed by Environment Protection Department.	One Health Task Force
3.2 Development of a multi-sectoral approach	Development of a multi-sectoral strategy that addresses, monitoring and surveillance of indoor and ambient air quality (especially PM10 and PM2.5) and issuing emergency air pollution and health alerts. Develop immediate term strategies on tree-plantation Develop long term strategies on • Strict compliance and enforcement of National Environmental Quality standards (related to ambient air quality). • Annual Vehicle Certification (Vehicle fitness) to reduce / restrict the release of pollutants in air. Encourage the use of Green Energy options. • Improve highways (especially intersections) and building designs. • Promote the use of cleaner and environment friendly fuels (e.g. CNG, Hybrid systems)	PSPU P&D EPD Relevant Programs
3.3 Establish accountability mechanism	Defining roles, responsibilities and accountability matrix in agreement with all relevant stakeholders (EPA, EPD, traffic & transportation department)	PSPU P&D ICP EPD
3.4 Development of common NCD registry	The program for non-communicable diseases will conduct a base-line survey on current NCDs and develop a common registry on NCDs	Relevant Program of DGHS PITB Integrated Information System
3.5 Promulgation of Act	Establish and enforce penalties for industrial as well as individual polluters by development of act/legislation. Enforce EIA/EHIA related environmental laws	Relevant Program of DGHS Relevant Departments PITB

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 4: To protect the people and environment from the harmful and adverse effects of Hospital Waste by implementation of Hospital Waste Management Rules.		
4.1 Increase awareness amongst Healthcare facilities managers and communities on HWM	Develop comprehensive IEC campaign on safe and secure disposal of healthcare waste for both public and private sector by involving technical experts and communication specialists of Infection Control Program.	DGHS ICP PSPU EPA
	Development of a comprehensive awareness and sensitization campaign for patient, families and community on risks of healthcare waste.	DGHS ICP PSPU EPA Integrated Communication Cell (PSPU)
4.2 Ensuring standardized protocols across Punjab	Development and dissemination of protocols to public and private healthcare facilities across Punjab	ICP EPA PHC Private Institutions / NGO's
4.3 Develop competent healthcare facilities managers on HWM	Healthcare staff shall be trained and have adequate knowledge and improved practices regarding HWM Rules 2014 by developing training plans for master trainers and trickle-down trainings at all levels.	DGHS ICP Health Department -PS MS/SMO/MO
4.4 Data management and consumption	Development of a web-based management information system to analyze estimated waste production, actual waste generation and actual disposal	PSPU Integrated Information System DHAs Relevant Program of DGHS
	Development of data collection tools	ICP PITB
4.5 Provision of supplies for data collection	Assessment of equipment needed and development of budgets, procurement and dispatch plan	Health Department DGHS ICP
4.6 Development of HWM plans by Healthcare facility managers	Each HCF to develop HWM plan, (with resource allocation, targets setting, KPI's, budgets) and share with DGHS.	CEO MS SMO MO
4.7 Financial allocation	Consolidation of budgets and allocation in ADP	DGHS ICP P&D

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
4.8 Development of a monitoring and evaluation system to ensure implementation of Punjab HWM rules	Comprehensive M&E mechanism shall be developed with agreed indicators of performance for all HCF across Punjab, blood banks and laboratories	DGHS ICP PSPU PHC BTA SH&ME Department
4.9 Introduction of newer technologies for waste management	Development of technical committee to annually review any new state of the art and environment friendly technology for waste disposal.	Chaired by Minister health Member from EPA ICP PSPU DGHS P&D
4.10 Environmental Health Impact Assessment	Advocate for Environmental Health Impact Assessment (EHIA) to be used as an important tool for healthy and sustainable development of projects. Data collection and disease identification because of environmental pollutants.	Lead health department EPA (EPD) Chamber of Commerce and Industries Public and private sectors
OUTCOME 2	**Reduce the burden of infectious zoonotic diseases through coordination and innovation with shared responsibility**	
Objective 5: Establish and maintain high-level commitment at all relevant levels of government and key stakeholders including the private sector.		
5.1 Establish/ strengthen One Health (OH) governance structure. Mainstream OH in all relevant sectors.	Build an effective and efficient OH infrastructure for governance. Develop policy to mainstream OH in all relevant sectors and constitute a technical working group.	Health Department PSPU DGHS DG livestock DG EPD Wildlife Department DG Food Authority
5.2 Support the academic sector to enhance science based interventions	Sensitization and training on One Health at various educational levels	Health Department PSPU Education Department Live Stock Drug Control UVAS

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 6. Institutionalize One Health to achieve sustainability and legitimacy of the One Health Platform to coordinate multi-sectoral collaboration.		
6.1 Establish OH platform as a component of the government	Strengthen OH multi-sectoral committees including technical working groups.	Health Department PSPU DGHS EPD Mo Food & Agriculture Wildlife Department
6.2 Establish budgetary provision for the OH activities including monitoring and evaluation	Effectively raise and manage funding to carry out immediate investigation of outbreaks.	DGHS PSPU Health Department
Objective 7. Strengthen prevention, preparedness and response to zoonotic diseases, AMR and biosecurity threats.		
7.1 Develop and monitor response plan	Review of the existing plan and develop monitoring and evaluation framework for the desired results.	PSPU DGHS Livestock Wildlife department UVAS
7.2 Effectively enhance surveillance, data collection and decision making	Establish integrated and multi sectoral surveillance system with centralized database.	PSPU UVAS DGHS
7.3 Build capacity for multidisciplinary research	Establish community-based risk assessment mapping network.	Health Department PSPU UVAS Live Stock Research Wing Civil/private organization
7.4 Harmonize activities for efficient response to prioritized zoonosis.	Develop implementation plan for AMR action plan with monitoring and evaluation indicators and timelines for human, animal, food, plant and environmental health sectors. Introduce AMR surveillance to include zoonotic pathogen and M&E indicators to assess quality of data.	Health Department PSPU DGHS Food Department DG live stock Provincial Drug Control UVAS
7.5 Harmonize AMR action plan with OH approach and biosecurity issues	Improve prevention, detection and control of infectious agents. Optimize proper use of antimicrobial medicines. Strengthen research and innovation on AMR. Strengthen cross sectional collaboration, coordination and linkages.	Wildlife Dept. Health Department PSPU DG provincial drug control ICP Wildlife Dept.

STRATEGIC DIRECTION	STRATEGIC INTERVENTION	RESPONSIBILITY
Objective 8. Strengthen capacities (competencies, tools, strategic thinking, leadership, coordination) of the One Health platform and other stakeholders to effectively address zoonotic disease threats.		
8.1 Capacity building of OH experts	Select and train staff from all stakeholder sectors and establish an inventory of OH experts across the sectors.	PSPU DGHS Health Department UVAS
8.2 Establish key competencies required for multisectoral coordination and collaboration.	Conduct regular capacity needs assessments	PSPU Health Department UVAS Food Department Live Stock Department
8.3 Develop and implement a training program for OH platform and other stakeholders	Develop OH training curriculum to build the capacity of the staff.	PSPU Health Department UVAS Live Stock Department
8.4 Enable OH experts with new technology and required tools.	Provide the required tools and equipment	Health Department PSPU Food Department DGHS
Objective 9. Enhance behavior change communication and awareness of the value of One Health Approach.		
9.1 Develop and implement One Health Communication Strategy	Create awareness and support OH through effective advocacy, communication and trainings. Develop OH training curriculum for all workers.	Health Department PSPU DGPR Integrated Communication Cell (PSPU)
9.2 Create awareness and support for OH through effective advocacy, communication & trainings.	Develop OH communication and implementation plan	Health Department PSPU DGHS Integrated Communication Cell (PSPU)
OUTCOME 3	**Improved WASH and Menstrual Hygiene Management (MHM)**	
Objective 10. To ensure provision of women friendly WASH services including Menstrual Hygiene Management for both adolescent girls and women, at all levels not limited to only office spaces, health facilities, medical educational institutes etc.		
10.1 Access to WASH and Menstrual Hygiene Management for adolescent girls, women and Person with Disabilities	Policy to develop minimum standards of MHM integrating Education, Health and Women Development departments in Punjab for incorporation in respective programs	PSPU DGHS PMIU (School Education Department) Higher Education Department Relevant Departments International Development Partners

Section 5

Implementation Arrangements

1. Implementation Structure

Implementation will involve:

i) Development of an Operational Plan with Timelines and Monitoring Framework, that can track progress of the PHSS implementation overtime;

ii) Rolling Action Plan to monitor progress on implementation of Strategic Actions;

iii) Detailed planning for each of the Strategic Actions to integrate these, as part of the ADP and the Operational Budget;

iv) Linking Strategic Outputs with the Medium-Term Budgetary Framework (to fulfill Output Based Budgeting {OBB} requirements);

v) Development of a Rolling Action Plan / Critical Pathway Matrix (CMP) to monitor progress on implementation of Strategic Actions;

vi) Annual and Quarterly Review systems to examine both implementation plan and desired performance results. Existing annual planning is limited to the Annual Development Plans and lacks a mechanism to synchronize operational and development planning under a single mechanism.

vii) A Rolling Plan mechanism has to be developed to track the progress of the PHSS and its uptake into ADP and regular operational budget. Rolling Plan is an established mechanism to implement medium term vision through short term implementation plans aligned with the budgetary system of the country.

viii) The Rolling Plan will run as a part of the annual planning and budgetary calendar. The plan for a particular year will contain three lists of projects/proposals considered necessary for the implementation of PHSS, as indicated below.

- ✓ List A: Projects/ Proposals where implementation details have been agreed/ approved
- ✓ List B: Projects/ Proposals where implementation details have to be worked/ agreed
- ✓ List C: Projects/ proposals where conceptual development has to be progressed

TABLE 29: IMPLEMENTATION ROLLING PLAN

2019-20 Rolling Plan I		2020-21 Rolling Plan II		2021-22 Rolling Plan III	
Completed and removed from rolling plan list					
List A	Projects/ Proposals where implementation details have been agreed / approved	**Completed and removed from rolling plan list**			
List B	Projects/ Proposals where implementation details have to be worked/ agreed	**List A**	Projects/ Proposals where implementation details have been agreed/approved	**Completed and removed from rolling plan list**	
List C	Projects/ proposals where conceptual development has to be progressed	**List B**	Projects/ Proposals where implementation details have to be worked/ agreed	**List A**	Projects/ Proposals where implementation details have been agreed/approved
		List C	Projects/ proposals where conceptual development has to be progressed	**List B**	Projects/ Proposals where implementation details have been agreed/approved
				List C	Projects/ Proposals where implementation details have been agreed/approved

The authority/s responsible to coordinate PHSS implementation (PSPU and P&SHD Punjab) will continue to work on all three lists with the objective to complete projects/proposals in list A, move projects/ proposals in list C to list B and those in list B to list A in next year's version of rolling plan.

The key institutions/committees that are needed at provincial and district level include:

i) Steering Committee
ii) Technical Working Group
iii) Implementation Working Group
iv) District Technical Committees

The role of these institutions is visualized below:

1.1 Steering Committee

A Multi-sectoral Steering Committee (SC) will include representatives of health, education, water and sanitation, local government, social welfare, labor & manpower and socio-economic development sector. The main aim will be to overlook the policy matters, review progress of implementation of each strategy outcome on quarterly basis and recommend improved schemes to Planning and Development and Finance for approval. The Steering Committee will be based in the Planning and Development Department with both Secretaries (P&SHD, SH&ME) as members and the Minister for Health, Government of Punjab as Chairperson.

The Steering Committee with its oversight and coordination, will play a facilitative, supportive, and collaborative role in the implementation of PHSS. The SC will oversee the PHSS implementation process and will continue to guide, support and coordinate with the stakeholders within the public sector and help remove bottlenecks at the highest level of the government to move forward with strength toward birth spacing objectives. Ensuring quality will be the key to success of PHSS.

1.2 Technical Working Group (TWG)

TWG will oversee and provide technical support and mobilization of technical resources including consultants and experts, formulation of TORs, circulation and approval of TORs, supervision of consultancy work and also cover development of plans to disseminate results/tasks. TWG, having members from multiple departments will have a meeting on monthly basis to review progress and plan for future actions. A strong technical forum at government level will supervise the implementation of the PHSS and provide strategic guidelines for smooth functioning - chaired by DG or Secretary Health.

1.3 District Technical Committee (DTC)

DTCs have been in place for over two decades at the district level but most need to be made functional. DTCs are headed by DHOs. Capacity building of all members of DTC is the key to effective understanding of PHSS. Strategic outputs listed in the PHSS document need to be strictly adopted for district level performance assessment. Accordingly, DHIS, cLIMS, etc. all data sources need to be aligned with PHSS indicators for consistency and regularity at the district level.

DTC will work for the establishment of tehsil level monitoring teams and mechanism to gather accurate data on performance. Tehsil level management tier will be enhanced to support accurate reporting, using new tools and formats. This shall be led by Chief Executive Officer (CEO) of the of respective DHA and his office shall provide office support/facilitate the functions of the committee.

2. Annual & Quarterly Review

Annual review: Annual Review will be organized by PSPU and held under the chairmanship of the Secretary Health Punjab/Special Secretary or PD PSPU. The purpose will be to review last year's performance and approve the Operational Plan and the Rolling Action Plan for the next year. An Annual Review Report will also be developed and shared with all relevant stakeholders. Annual Review will be held in July of each year.

Quarterly Review: Periodic quarterly review will be undertaken by PSPU and held under the chairmanship of the Secretaries of P&SHD and Secretary Specialized Healthcare, PD PSPU and DG Health jointly. The purpose will to take of the Rolling Action Plan and the performance reports provided by the M&E sections of both departments. Quarterly meetings will be held by the 15th of the first month of each quarter.

3. Implementation Challenges

The analysis of Strategic Framework reveals that majority of the activities involve initial planning or early implementation. This require extensive expertise either in form of technical assistance (TA) or staff time. Even in case of outsourced technical assistance, the departmental staff has to manage and support technical process. Majority of this additional work pressure will have to be managed by the policy level staff of the department, as it involves high level of information support and structural decision. This level of the department is committed round the office hours with meetings and other routine activities and therefore it is anticipated that tracking the progress or initiation of work under the PHSS may suffer. Secondly, almost all activities included in Operational Plan involve change in one or the other form with varying level of spread, effect and complexity. Change is always a complex process as transformations in one part of the organization influences (directly or indirectly) working in other parts. Too many change initiatives put to implementation at same time may create organizational disorder that can impede change process and even lower performance of the organization. Thirdly, the government in Punjab is making adjustments in the current system with resultant extra funding requirements that will put additional pressure on existing resource envelope of the Government. It will be challenging to take through proposals included in PHSS to the annual development programme, which involve sizable budgetary allocations for Family Planning.

The challenges discussed above are complex requiring exceptional attention of PSPU and stakeholders interested in implementation of PHSS. A number of steps are possible to overcome these difficulties that may include the following:

I) As the first step in the process, PSPU will notify constitution of Steering Committee. This step will put implementation process to rolling.

ii) PHSS portfolio would require dedicated technical team. PSPU needs to assure that proper technical capacity is made available to work for the explicitly allocated mandate.

iii) Further, PSPU will discuss with TA supporting donors to fund a position of Technical Advisor for one year. Indicated Technical Advisor would support institutionalization of the PHSS, monitoring framework and develop capacity to manage TAs by the PSPU.

iv) PSPU will widely disseminate PHSS amongst all relevant stakeholders including the mass media with an objective to adopt this as the only and conjoint roadmap of not only the PSPU and DoH but also by all other line departments and the non-state sector.

v) PSPU will advocate PHSS with key government departments such as the Planning & Development Department and the Finance Department for professing its alignment with the overall mandate of the Government.

vi) PSPU will consolidate TA support in pipeline from different donors with a view to plan it to meet requirements worked out in PHSS. In case this pipeline support is not enough, the department can develop project and get development funds form the ADP Schemes.

vii) The Steering Committee will be mandated to review 'change' in the PHSS being a living document and amenable to future changes not only in annual meeting but also hold special meeting/s to address significant change issues emerging at any point in time.

A Monitoring Committee under the chairmanship of Program Director PSPU may be constituted having multi-sectoral representation. This committee should meet quarterly and review progress against agreed milestones given in PHSS framework. The proposed terms of reference are as follows:

- Oversee and steer the implementation of the PHSS at the provincial and district level.

- Track and monitor progress on the PHSS implementation in quarterly review meeting.

- Review the provisions of the PHSS on annual basis to approve any modifications if required, given any emerging needs and amendments based on the ground realities.

TABLE 30: QUARTERLY SCHEDULE TO REVIEW PROGRESS AGAINST MILESTONES GIVEN IN PHSS FRAMEWORK

Month	Activities
July-September	• Data collection and update on implementation of PHSS rolling plan for the last year. • Review of past year's rolling plan. • Prepare a comprehensive review report. • Prepare annual work plan for PHSS. • Start implementation of project/ proposals contained in List A and address issues • relating to release of funds and deciding on implementation details.
October	**First Quarter Review**
September-December	• Preparations of budget proposals and development of PC-I form of the projects contained in list B. • Follow up budget proposals and PC-I with relevant authorities for approval. • Arrange technical support if required. • Give responsibility to Technical Adviser or any specific person/group/organization for • working components of list C. • Start consultative process for preparation of rolling plan for the next year.
January	**Second Quarter Review**
January-March	• Finalize draft rolling plan. • Prepare review report for third quarterly meeting.
March	**Third Quarter Review**
April	• Share draft Rolling with district government and Provincial PSPU and DoH.
April-June	• Follow up on inclusion of proposals in the budget for the next year.
July	• End Year or Annual Review Report.

Section 6

Annexures & References

Annexure-A

LIST OF PUBLIC & PRIVATE NURSING INSTITUTES IN PUNJAB

(Source: https://www.eduvision.edu.pk/institutions-offering-medicine-mbbs-with-field-medical-sciences-at-bachelor-level-in-pakistan)

S#	INSTITUTE	CITY	DEGREE / DURATION
1.	KING EDWARD MEDICAL UNIVERSITY / MIO HOSPITAL	LAHORE	B.SC. , 2 YEARS
2.	UNIVERSITY OF THE PUNJAB	LAHORE	B.SC. , 2 YEARS
3.	UNIVERSITY OF THE PUNJAB	LAHORE	B.NURS , 4 YEARS
4.	THE SUPERIOR UNIVERSITY	LAHORE	B.NURS , 2 YEARS
5.	THE UNIVERSITY OF LAHORE (MAIN CAMPUS)	LAHORE	B.NURS , 4 YEARS
6.	THE UNIVERSITY OF LAHORE (MAIN CAMPUS)	LAHORE	B.NURS , 2 YEARS
7.	NATIONAL UNIVERSITY OF MEDICAL SCIENCES	RAWALPINDI	BS , 4 YEARS
8.	ALLAMA IQBAL MEDICAL COLLEGE / JINNAH HOSPITAL	LAHORE	B.NURS , 4 YEARS
9.	POSTGRADUATE COLLEGE OF NURSING	LAHORE	B.SC. , 2 YEARS
10.	SCHOOL OF NURSING & MIDWIFERY SIR GANGA RAM HOSPITAL	LAHORE	B.SC. , 2 YEARS
11.	NISHTAR MEDICAL COLLEGE / NISHTER HOSPITAL	MULTAN	B.SC. , 4 YEARS
12.	SHEIKH ZAYED MEDICAL COLLEGE/HOSPITAL	RAHIMYAR KHAN	B.SC. [HONORS] , 4 YEARS
13.	COLLEGE OF NURSING ARMED FORCES POST GRADUATE MEDICAL INSTITUTE	RAWALPINDI	B.SC. , 4 YEARS
14.	BAHAWALPUR COLLEGE OF NURSING	BAHAWALPUR	B.NURS , 2 YEARS
15.	GULF COLLEGE OF NURSING	D.G. KHAN	B.SC. , 2 YEARS
16.	AZIZ FATIMAH NURSING COLLEGE	FAISALABAD	B.SC. , 4 YEARS
17.	INDEPENDENT COLLEGE OF NURSING	FAISALABAD	B.NURS , 4 YEARS
18.	AKHTAR SAEED MEDICAL AND DENTAL COLLEGE	LAHORE	B.SC. , 4 YEARS
19.	GULFREEN NURSING COLLEGE	LAHORE	B.SC. , 4 YEARS
20.	SAIDA WAHEED FMH COLLEGE OF NURSING	LAHORE	B.SC. , 4 YEARS
21.	SHALAMAR NURSING COLLEGE	LAHORE	B.NURS , 4 YEARS
22.	SHARIF COLLEGE OF NURSING	LAHORE	B.SC. , 4 YEARS
23.	MEDICARE COLLEGE OF NURSING	MULTAN	B.SC. , 2 YEARS
24.	MULTAN MEDICAL AND DENTAL COLLEGE	MULTAN	B.SC. , 2 YEARS
25.	AL WATEEN INSTITUTE OF MEDICAL SCIENCES, RAWALPINDI CAMPUS	RAWALPINDI	B.SC. , 4 YEARS
26.	ARMED FORCES MEDICAL COLLEGE	RAWALPINDI	B.SC. , 2 YEARS
27.	WAH MEDICAL COLLEGE	WAH	B.SC. , 2 YEARS
28.	COMBINED MILITARY HOSPITAL	KHARIAN	B.SC. , 4 YEARS
29.	COMBINED MILITARY HOSPITAL	LAHORE	B.SC. , 4 YEARS
30.	SHALAMAR HOSPITAL	LAHORE	B.NURS , 4 YEARS
31.	SHALAMAR HOSPITAL	LAHORE	B.NURS , 2 YEARS
32.	SHEIKH ZAYED FEDERAL POSTGRADUATE MEDICAL INSTITUTE / HOSPITAL	LAHORE	B.SC. [HONS] , 4 YEARS
33.	SHEIKHA FATIMA INSTITUTE OF NURSING & HEALTH SCIENCES	LAHORE	B.SC. , 4 YEARS
34.	SHEIKHA FATIMA INSTITUTE OF NURSING & HEALTH SCIENCES	LAHORE	B.NURS , 2 YEARS
35.	COMBINED MILITARY HOSPITAL	MULTAN	B.SC. , 4 YEARS
36.	COLLEGE OF NURSING & MIDWIFERY, HOLY FAMILY HOSPITAL	RAWALPINDI	B.SC. , 2 YEARS
37.	SCHOOL OF NURSING, JINNAH HOSPITAL	LAHORE	B.SC. , 2 YEARS
38.	SCHOOL OF NURSING, NISHTAR HOSPITAL	MULTAN	B.SC. , 2 YEARS

Annexure-B

LIST OF PUBLIC & PRIVATE MEDICAL COLLEGES IN PUNJAB

(Source: https://www.eduvision.edu.pk/institutions-offering-medicine-mbbs-with-field-medical-sciences-at-bachelor-level-in-pakistan)

S #	INSTITUTE	CITY	DEGREE / DURATION
1.	KING EDWARD MEDICAL UNIVERSITY / MIO HOSPITAL	LAHORE	MBBS , 5 YEARS
2.	UNIVERSITY COLLEGE OF MEDICINE AND DENTISTRY	LAHORE	MBBS , 5 YEARS
3.	QUAID-E-AZAM MEDICAL COLLEGE / VICTORIA HOSPITAL	BAHAWAL PUR	MBBS , 5 YEARS
4.	D. G. KHAN MEDICAL COLLEGE	D.G.KHAN	MBBS , 5 YEARS
5.	ABWA MEDICAL COLLEGE	FAISALABAD	MBBS , 5 YEARS
6.	PUNJAB MEDICAL COLLEGE / ALLIED HOSPITAL	FAISALABAD	MBBS , 5 YEARS
7.	GUJRANWALA MEDICAL COLLEGE	GUJRANWALA	MBBS , 5 YEARS
8.	NAWAZ SHARIF MEDICAL COLLEGE [GUJRAT]	GUJRAT	MBBS , 5 YEARS
9.	ALLAMA IQBAL MEDICAL COLLEGE / JINNAH HOSPITAL	LAHORE	MBBS , 5 YEARS
10.	AMEER UD DIN MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
11.	FATIMA JINNAH MEDICAL COLLEGE FOR WOMEN / GANGA RAM HOSPITAL	LAHORE	MBBS , 5 YEARS
12.	SHAIKH KHALIFA BIN ZAYED AL-NAHAYAN MEDICAL & DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
13.	NISHTAR MEDICAL COLLEGE / NISHTER HOSPITAL	MULTAN	MBBS , 5 YEARS
14.	ARMY MEDICAL COLLEGE / CMH	RAWALPINDI	MBBS , 5 YEARS
15.	FOUNDATION UNIVERSITY MEDICAL COLLEGE	RAWALPINDI	MBBS , 5 YEARS
16.	RAWALPINDI MEDICAL COLLEGE / GENERAL HOSPITAL	RAWALPINDI	MBBS , 5 YEARS
17.	SAHIWAL MEDICAL COLLEGE	SAHIWAL	MBBS , 5 YEARS
18.	SARGODHA MEDICAL COLLEGE	SARGODHA	MBBS , 5 YEARS
19.	KHAWAJA MUHAMMAD SAFDAR MEDICAL COLLEGE	SIALKOT	MBBS , 5 YEARS
20.	AZIZ FATIMAH MEDICAL AND DENTAL COLLEGE	FAISALABAD	MBBS , 5 YEARS
21.	INDEPENDENT MEDICAL COLLEGE	FAISALABAD	MBBS , 5 YEARS
22.	UNIVERSITY MEDICAL & DENTAL COLLEGE	FAISALABAD	MBBS , 5 YEARS
23.	62. M.ISLAM MEDICAL & DENTAL COLLEGE	GUJRANWALA	MBBS , 5 YEARS
24.	HASHMAT MEDICAL COLLEGE	JALAL PUR JATTAN	MBBS , 5 YEARS
25.	AKHTAR SAEED MEDICAL AND DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
26.	AL-ALEEM MEDICAL COLLEGE, GULAB DEVI EDUCATIONAL COMPLEX	LAHORE	MBBS , 5 YEARS
27.	AVICENNA MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
28.	AZRA NAHEED MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
29.	CENTRAL PARK MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
30.	CMH LAHORE MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
31.	81. CONTINENTAL MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
32.	FMH COLLEGE OF MEDICINE & DENTISTRY	LAHORE	MBBS , 5 YEARS
33.	LAHORE MEDICAL & DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
34.	PAKISTAN RED CRESCENT MEDICAL AND DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
35.	RAHBAR MEDICAL AND DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
36.	RASHID LATIF MEDICAL COLLEGE	LAHORE	MBBS , 5 YEARS
37.	SHALAMAR MEDICAL & DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
38.	SHARIF MEDICAL & DENTAL COLLEGE	LAHORE	MBBS , 5 YEARS
39.	SHAHIDA ISLAM MEDICAL COLLEGE	LODHRAN	MBBS , 5 YEARS
40.	BAKHTAWAR AMIN MEDICAL AND DENTAL COLLEGE	MULTAN	MBBS , 5 YEARS
41.	CMH MULTAN INSTITUTE OF MEDICAL SCIENCES	MULTAN	MBBS , 5 YEARS
42.	MULTAN MEDICAL AND DENTAL COLLEGE	MULTAN	MBBS , 5 YEARS

43.	SAHARA MEDICAL COLLEGE	NAROWAL	MBBS , 5 YEARS
44.	NIAZI MEDICAL COLLEGE	SARGODHA	MBBS , 5 YEARS
45.	RAI MEDICAL COLLEGE	SARGODHA	MBBS , 5 YEARS
46.	AMNA INAYAT MEDICAL COLLEGE	SHEIKHUPURA	MBBS , 5 YEARS
47.	ISLAM MEDICAL COLLEGE	SIALKOT	MBBS , 5 YEARS
48.	SIALKOT MEDICAL COLLEGE	SIALKOT	MBBS , 5 YEARS
49.	INDUS MEDICAL COLLEGE	TANDO MOHD. KHAN	MBBS , 5 YEARS
50.	WAH MEDICAL COLLEGE	WAH	MBBS , 5 YEARS
51.	COMBINED MILITARY HOSPITAL	KHARIAN	MBBS , 5 YEARS
52.	SERVICES INSTITUTE OF MEDICAL SCIENCES	LAHORE	MBBS , 5 YEARS
53.	SHEIKH ZAYED FEDERAL POSTGRADUATE MEDICAL INSTITUTE / HOSPITAL	LAHORE	MBBS , 5 YEARS
54.	HITECH INSTITUTE OF MEDICAL SCIENCES	TAXILA	MBBS , 5 YEARS
55.	CMH INSTITUTE OF MEDICAL SCIENCES	BAHAWAL PUR	MBBS , 5 YEARS
56.	ISLAMIC INTERNATIONAL MEDICAL COLLEGE	RAWALPINDI	MBBS , 5 YEARS
57.	AMINA INAYAT MEDICAL COLLEGE	SHEIKHUPURA	MBBS , 5 YEARS

Annexure-C

PMDC RECOGNIZED MEDICAL & DENTAL COLLEGES IN PUNJAB (SOURCE: PMDC 2019)

Recognized Medical and Dental Colleges							
Province	**Public**			**Private**			**Public & Private**
	Medical	Dental	Total	Medical	Dental	Total	Grand Total
Punjab	19	04	23	43	22	65	88

Annexure-D

POSTGRADUATE MEDICAL INSTITUTIONS IN PUNJAB (SOURCE: PMDC)

S #	POSTGRADUATE INSTITUTIONS IN PUNJAB
1.	GULAB DEVI POSTGRADUATE MEDICAL INSTITUTE, FEROZEPUR ROAD, LAHORE.
2.	PUNJAB INSTITUTE OF CARDIOLOGY, GULBERG ROAD, LAHORE.
3.	UNIVERSITY OF HEALTH SCIENCES, KHAYABAN-E-JAMIA PUNJAB, LAHORE.
4.	ARMED FORCES POSTGRADUATE MEDICAL INSTITUTE, RAWALPINDI.
5.	INSTITUTE OF PUBLIC HEALTH, 3-D INCOME TAX COLONY LAHORE.
6.	SHAIKH ZAYED POSTGRADUATE MEDICAL INSTITUTE, LAHORE.
7.	QUAID-E-AZAM MEDICAL COLLEGE, BAHAWALPUR.
8.	ARMY MEDICAL COLLEGE, ABID MAJID ROAD, RAWALPINDI.
9.	PAKISTAN INSTITUTE OF OPHTHALMOLOGY, AL-SHIFA TRUST EYE HOSPITAL, JEHLUM ROAD, RAWALPINDI.
10.	INSTITUTE OF CHILD HEALTH/ CHILDREN”S HOSPITAL, FEROZEPUR ROAD, LAHORE

Annexure-E

PM NATIONAL HEALTH PROGRAM PUNJAB EMPANELLED HOSPITALS LIST (JANUARY 2019)

SE. #	SECONDARY TREATMENT HOSPITALS	LOCATION
1.	VIRK MEDICAL COMPLEX	SARGODHA
2.	NAUL MEDICAL COMPLEX	SARGODHA
3.	AL SHIFA FARIDA MEMORIAL HOSPITAL	SARGODHA
4.	CHEEMA HEART & GENERAL HOSPITAL	SARGODHA
5.	SIAL HOSPITAL	SARGODHA
6.	SARWAR HOSPITAL	SARGODHA
7.	MUNEER HOSPITAL	SARGODHA
8.	MUBARAK MEDICAL COMPLEX	SARGODHA
9.	MUHAMMAD ALI HOSPITAL	NAROWAL
10.	CH. SARWAR HOSPITAL	NAROWAL
11.	SHUKAR DIN SURGICAL HOSPITAL	NAROWAL
12.	ZUHRA SURGICAL & CHILDREN HOSPITAL	NAROWAL
13.	HASSAN MEDICAL & SURGICAL HOSPITAL	NAROWAL
14.	SAMEEM ZAFAR MEDICAL CENTRE	KHANEWAL
15.	MAJEED HOSPITAL	KHANEWAL
16.	SAEED MEDICARE HOPSITAL	KHANEWAL
17.	AWAMI HOSPITAL	KHANEWAL
18.	HAMZA MEDICARE	RAHIM YAR KHAN
19.	CMH	RAHIM YAR KHAN
20.	AL REHMAT MEDICAL COMPLEX	RAHIM YAR KHAN
21.	TEHSEEN HOSPITAL RYK	RAHIM YAR KHAN
22.	ALI NAWAZ HOSPITAL	RAHIM YAR KHAN
23.	BAKHTAWAR HOSPITAL SADIQABAD	RAHIM YAR KHAN
24.	MILLAT HOSPITAL	RAHIM YAR KHAN
25.	HASSAN HOSPITAL	RAHIM YAR KHAN
26.	SAAD ABDULLAH SURGICAL HOSPITAL	RAHIM YAR KHAN
27.	TAHIR GENERAL HOSPITAL	RAHIM YAR KHAN

Sr. #	TERTIARY/REFERRAL TREATMENT HOSPITALS	LOCATION
1.	SHARIF MEDICAL CITY HOSPITAL	LAHORE
2.	FAROOQ HOSPITAL	LAHORE
3.	ITTEFAQ HOSPITAL (TRUST)	FAISALABAD
4.	FAISALABAD INSTITUTE OF CARDIOLOGY	MULTAN
5.	CH. PERVAIZ ELAHI INST. OF CARDIOLOGY MULTAN	MULTAN
6.	IBN-E-SENA HOSPITAL AND RESEARCH INST.	MULTAN
7.	BAKHTAWAR AMIN HOSPITAL	MULTAN
8.	CMH RYK	KHANEWAL
9.	NOUREEN NISHAT WELFARE HOSPITAL	

List of Participant of Consultative Workshop on Development of National Health Policy and Provincial Strategic Framework

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131	Fazeda Afzal	TSP Patient	
132	Bakhtawar	TSP Patient	
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